RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

SEPTEMBER 30, 1950

During the year ended June 30, 1950, Chicago & North Western Railway increased its fleet of General Motors Diesel freight locomotives from 47 to 137 units—and its handling of gross ton miles with Diesel power from 29.5% to 64.4%. Fuel cost for the Diesels was 13.55 cents per thousand gross ton miles as compared with 30.78 cents for steam, a saving of 56% in favor of GM Diesels. Fuel economy is *one* reason so many railroads are dieselizing with General Motors locomotives.

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS • LA GRANGE, ILLINOIS

HOME OF THE DIESEL LOCOMOTIVE

In Canada, GENERAL MOTORS DIESEL LTD., LONDON, ONTARIO

GENERAL MOTORS LOCOMOTIVES

DEAD HEAT!

1881-1891 During these years the railroads bought 193,168 carsets of the WESTINGHOUSE AUTOMATIC BRAKE — thus beginning the era of high-speed, heavy-duty transportation.

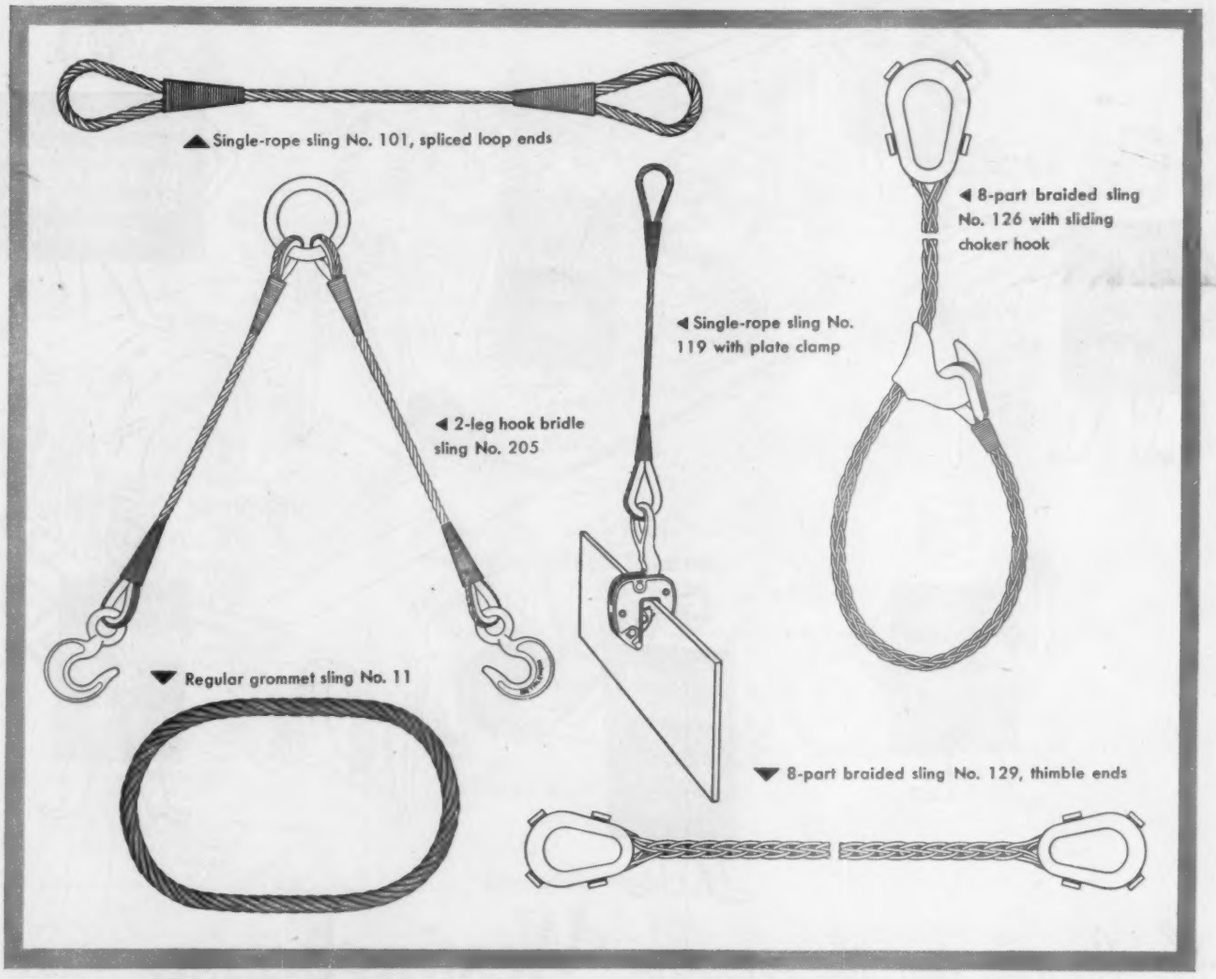
1940-1950 During these years the railroads bought 195,643* carsets of UNIT TRUCKS — the first basic improvement in freight car brake rigging since Westinghouse.

This is no mere coincidence! More than half a century apart, the remarkable similarity of Westinghouse and the Unit Truck sales during the first decade of their existence demonstrates the railroads' continuing recognition of sound fundamental improvements . . . their ability to assess the difference between a gadget and a significant mechanical improvement.

**Not including the final quarter of 1950*

UNIT TRUCK CORPORATION • NEW YORK

Published weekly by Simmons-Boardman Publishing Corporation, Orange, Conn. Executive Offices, 30 Church Street, New York 7, N. Y. Entered as second class matter at Orange, Conn., under the act of March 3, 1879. Subscription price $6.00 for one year, U. S. and Canada. Single copies, 50 cents each. Vol. 129, No. 14.


▲ Single-rope sling No. 101, spliced loop ends
◀ 8-part braided sling No. 126 with sliding choker hook
◀ Single-rope sling No. 119 with plate clamp
◀ 2-leg hook bridle sling No. 205
▼ Regular grommet sling No. 11
▼ 8-part braided sling No. 129, thimble ends

You can trust them!

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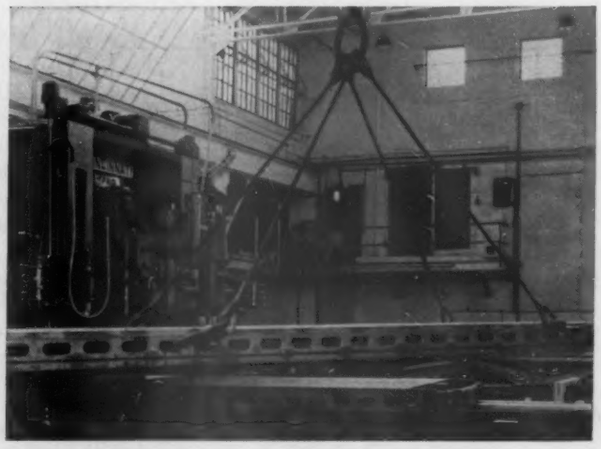
In making these slings, our Number 1 objective is quality . . . the sort of quality that brings complete assurance to the user. Bethlehem slings contain our finest rope, the Purple Strand improved plow grade. They are made by expert workmen who specialize in slings and nothing else.

Variety? Yes. Name your kind, we'll make it for you . . . single-rope, grommet, braided, bridle, and other types. With Bethlehem, every job is a "special" job, tailored to the needs of the individual user.

Bethlehem slings are available with all types of end fittings, such as sockets, thimbles, hooks, rings, links, etc. Whatever combination you want, we can furnish. Promptly, too.



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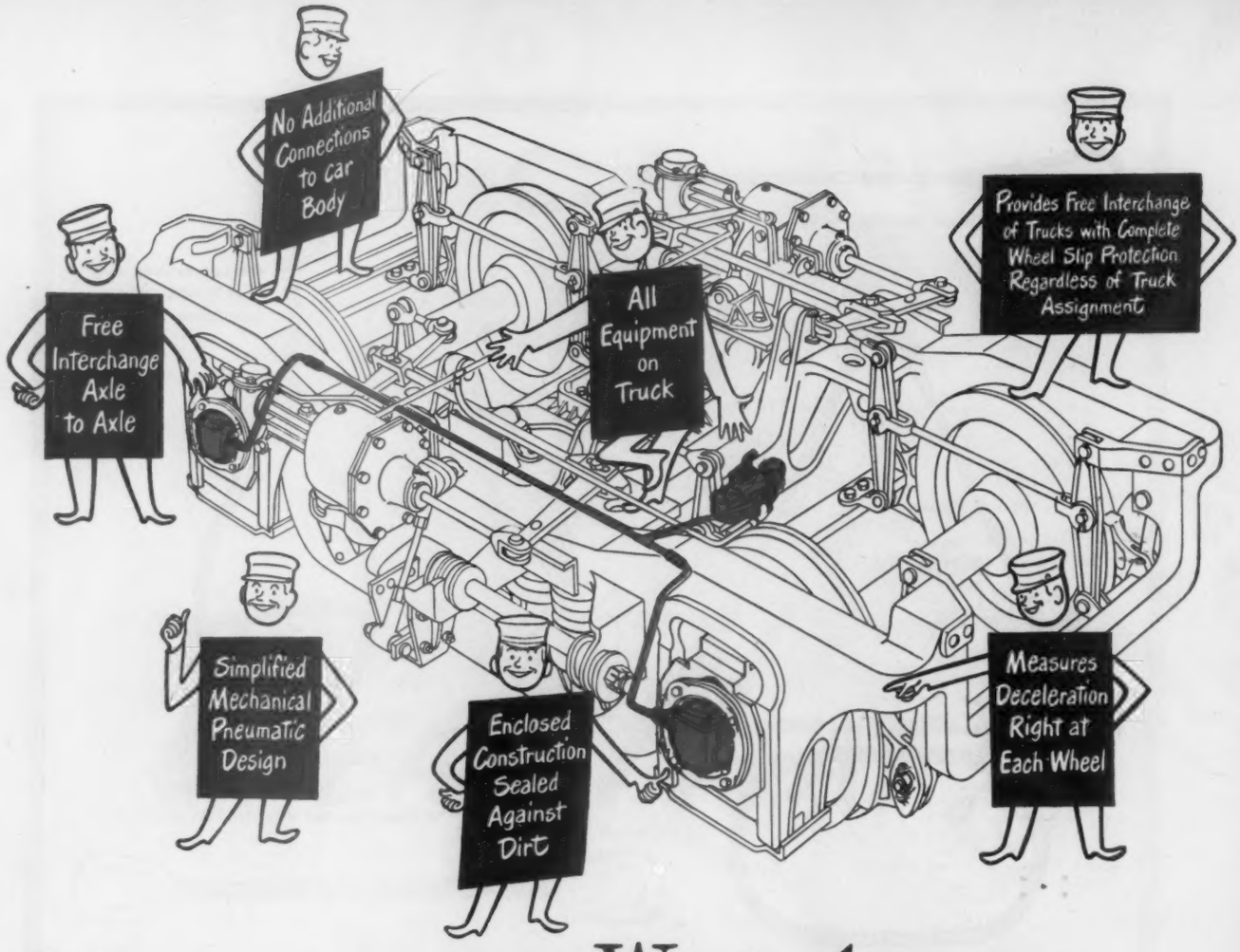
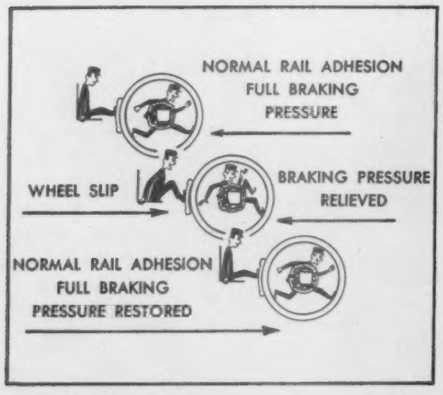

No Additional Connections to car Body
Free Interchange Axle to Axle
All Equipment on Truck
Provides Free Interchange of Trucks with Complete Wheel Slip Protection Regardless of Truck Assignment
Simplified Mechanical Pneumatic Design
Enclosed Construction Sealed Against Dirt
Measures Deceleration Right at Each Wheel

the figures tell the story of Westinghouse

AP DECELOSTAT ADVANTAGES



Millions of miles of travel without sliding a wheel have been reported by railroads with Westinghouse AP Mechanical-Pneumatic Decelostat installations. The dollar value of this performance, in terms of reduced wear on equipment and maintenance of maximum braking efficiency under all rail conditions, makes it an impressive return on investment.

As all equipment is on the truck, and no additional connections to car body, free assignment of trucks is possible. Enclosed, dirt-sealed construction enhances integrity of operation. Simplified mechanical-pneumatic design acts positively—relieves brake pressure at the first hint of wheel slip.

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WILMERDING, PA.

Vol. 129, No. 14 September 30, 1950

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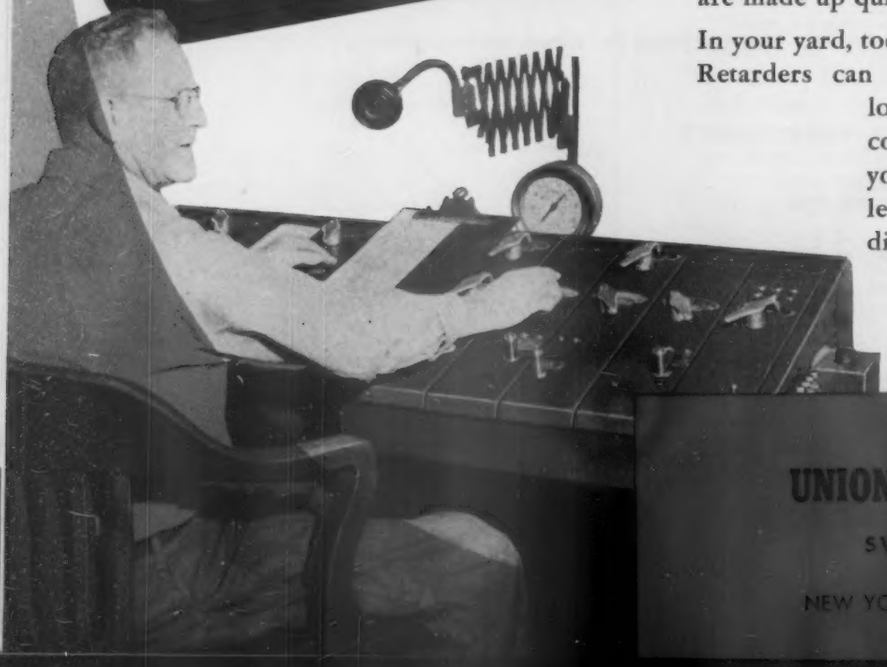
In your yard, too, "Union" Electro-pneumatic Car Retarders can speed freight classification and lower costs. "Union" engineers welcome the opportunity to work with you on freight classification problems—just call or write our nearest district office.



UNION SWITCH & SIGNAL COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

WEEK AT A GLANCE

DANGEROUSLY LOW: Widespread concern has been freely expressed in many quarters regarding the inadequacy of the railroads' freight car fleet; vigorous action is being taken to remedy the situation. But what about railroad fixed properties? After the unavoidable under-maintenance during World War II, and the subsequent lack of earnings sufficient to overcome that under-maintenance, are track and other fixed facilities in condition to handle another heavy load of defense traffic? Especially in another period of probable manpower and material shortages? Those undeniably important questions are squarely faced, and honestly—though not very cheerfully—considered in our leading editorial. That editorial points out, also, that if the prospects of high-quality rail service under an increased traffic load are not as good as they should be, it is not the railroads which are at fault, but the public and political inertia which have denied them the regulatory and competitive framework necessary for decent earnings. And it declares further that the railroads have an important story to tell concerning the close connection between their own dangerously low earnings and the country's dangerously low level of military preparedness.

NEW METHODS, NEW RESPONSIBILITIES: The burdens that would fall upon maintenance-of-way officers in the event of a full-scale war—and some of the new methods available to meet those responsibilities—were the central theme of last week's annual meeting of the Roadmasters' and Maintenance of Way Association. The speeches and committee reports presented at that meeting are abstracted in a comprehensive report of the proceedings which begins on page 35. An account of the concurrent convention of the American Railway Bridge & Building Association will appear in next week's issue.

HARRIMAN AWARDS: For having the outstanding safety records of 1949, the Norfolk & Western, the Western Maryland and the Colorado & Wyoming received gold medals, and 11 other roads received special certificates, all presented by the editor of *Railway Age*, at the annual Harriman Award dinner in New York on September 20. The occasion is reported, in text and pictures, on pages 32-34.

MAIL-PAY SETTLEMENT: Subject to ratification by individual roads, and I.C.C. approval, agreement has been reached between the Post Office Department and the railroads' Mail Pay Committee for a lump sum settlement of $150 million for the carriers' claims for retroactive mail pay for the period between February, 1947, and the end of the current calendar year. In round figures, this settlement, plus the 25 per cent interim increase already in effect, brings total mail pay for the 1947-1950 period to a level almost 50 per cent above the original 1947 rates. The agreement—which is outlined in the News pages—also appears to dispose of the troublesome problem of compensation for empty return movement of cars used in mail service, and provides a more equitable basis of compensation for those roads having heavy terminal expenses in connection with mail movement. It appears to leave for final adjudication by the I.C.C. only the future rate of pay for mail transportation. Without, at this time, expressing any opinion on the merits of the new agreement as such, it does seem permissible to give vent to a slight sigh of relief at the prospect of final disposition of this long-drawn-out and unfortunately somewhat acrimonious dispute.

"CONTRAILER": That's an abbreviation for "container-trailer"—an interesting new development which, it is claimed, increases by 65 per cent the volume of truck-loaded freight which can be transported on a railroad flat car, and which may, therefore, make it economically practical to coordinate to a greater extent than ever before rail and otherwise competitive motor transport. Some estimates of the "Contrailer's" possible revenue potential, and sketches of the vehicle itself, are included in the page 28 article in which E. H. Willets describes this new common carrier freight transport tool.

FULL TONNAGE: One of the generally accepted objectives of good railroading is to give locomotives the maximum tonnage they can haul, over a given territory and within the allotted time, but without imposing overloads which would result in excessive maintenance costs. At the recent Chicago meeting of the Locomotive Maintenance Officers' Association J. Z. Heskett, special engineer of the Baltimore & Ohio, gave a detailed analysis of the factors that enter into computation of tonnage ratings for Diesel-electric locomotives, complete with examples of the application of those factors. His paper is abstracted in this issue, beginning on page 21.

LIGHT-TRAFFIC C.T.C.: Centralized traffic control seems normally to be thought of as something especially applicable to heavy-traffic lines. But the St. Louis-San Francisco has installed C.T.C. on its 84-mi. single-track Edward, Kan.-Afton, Okla., line, which handles only 8 to 12 trains daily. As related in the illustrated feature article on page 30, the unusual installation was justified by the economy of equipping for C.T.C. only 6 of the line's 16 sidings, an average distance of over 10 mi. apart.

CELEBRATION: It lasted a week—and it left no doubt of Toledo's joy in its new N.Y.C.-owned Central Union Terminal, officially dedicated on September 22. The week-long festivities are the subject of the leading story in this week's News section, while the station itself, and its appurtenant facilities, will be described and illustrated in detail in an early future issue.

VAPOR LIGHTWEIGHT

BASIC HEATING SYSTEM

WEIGHS LESS THAN 60 lbs.—CONSISTS OF ONLY 9 COMPONENT PARTS

All the advantages of accurate temperature control with increased passenger comfort—in the lightest weight system ever devised. Easily installed, easily maintained—the new Vapor Rador heating system is the most compact in railroading . . . and where *additional* assurance of complete comfort at all times is desired, additional zones may be added—with the same advantages of light weight, compactness and simplicity.

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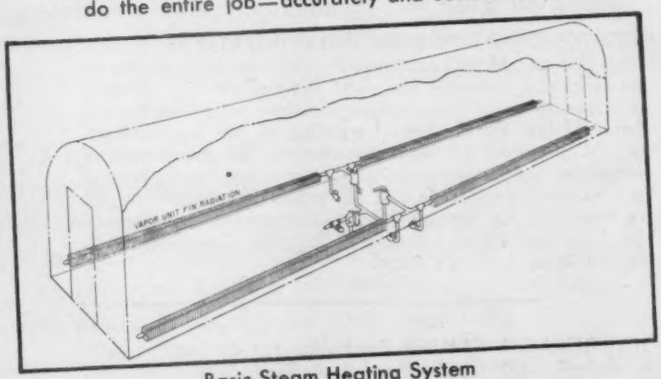
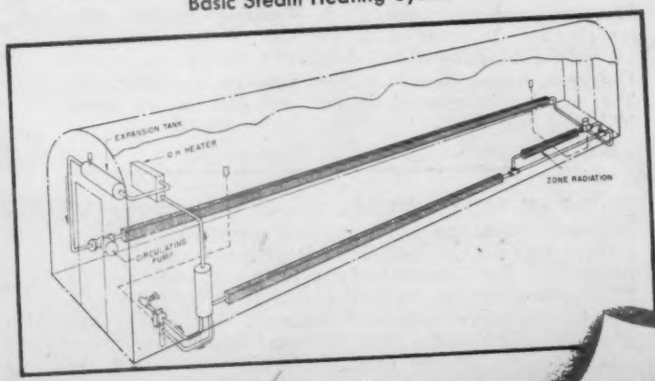


Basic Steam Heating System



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- SIMPLIFICATION OF CONTROLS
- IMPROVED IGNITION HEAD
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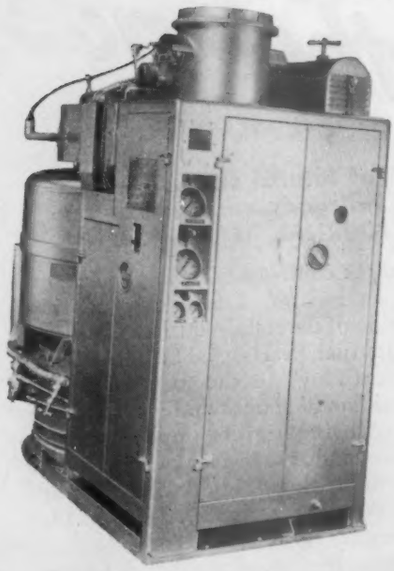

With another year of operating experience to draw upon, Vapor engineers in cooperation with mechanical departments of the railroads have further simplified controls—placed them more strategically for easier maintenance. Greater efficiency, greater economy of operation and easier maintenance makes the Vapor O. K. Steam Generator more of a buy word on railroads everywhere than ever before—and there are more than 2800 in operation *today!*

A WORD OF APPRECIATION TO THOSE WHO ATTEND THE ANNUAL VAPOR BOILER MAINTENANCE MEETING

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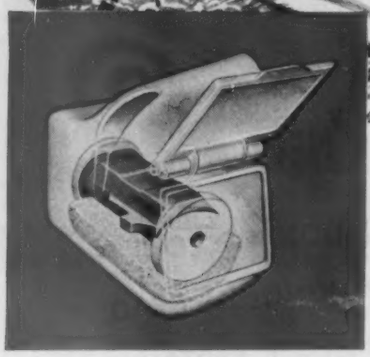

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Missouri Pacific Box-Express Car
with latest type Commonwealth BX Trucks

Offer Many Advantages For Commodity Cars In Passenger Train Service . . .

Especially designed to meet the demand for a safe, rugged, practical, light-weight truck for Box-Express Cars operating in passenger train service, this newest type COMMONWEALTH Equalized Swing-Motion Truck provides a smoother riding car with greatly reduced upkeep costs.

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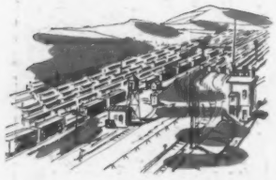
Can one do the work of two?



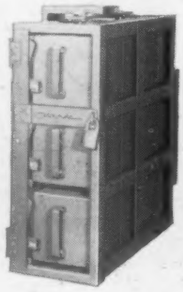
MOTOROLA in yard operations keeps more cars rolling.

MOTOROLA in end-to-end use keeps more trains rolling.

MOTOROLA deluxe Sensicon with eight exclusive Motorola developments is the last word in 2-way RR radio equipment.

Get 'em rolling and keep 'em rolling and you come that much nearer making one car do the work of two...and that's how Motorola 2-way radio is helping our vital rail forces to deliver more tonnage with less outage and delay...and the greater the demands, the more your insistence upon MOTOROLA equipment will pay off!

Motorola's marvelous and *exclusive* SENSICON circuit with seven other inventions have brought ultimate performance to the art of 2-way radio communications. These Motorola features give you superior performance, maximum reliability, long service and advance design that protects your investment against obsolescence for years to come.



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- by scientific, instrumentation mainline road tests—

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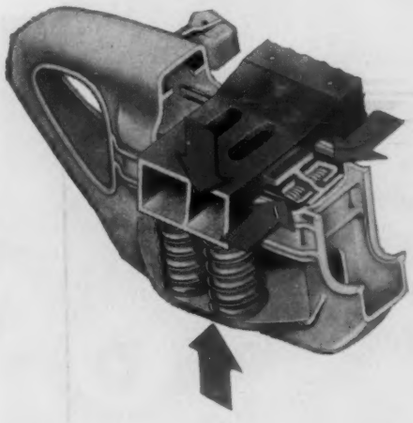
LATERAL VERTICAL CUSHIONED MOTION

- provide ultimate riding qualities and tracking characteristics at all speeds
- reduce lading damage to a minimum.

—because *exclusive L-V action* completely cushions and controls *both* lateral and vertical motion—*without* costly maintenance!



No freight car is more modern than its trucks.

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- ... trouble-free performance—withstand heavy vibration and hard, continuous service.
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That's *unrestricted interchange.* It means Brownsville to Boston without a car change for lading. It puts over 225,000 miles of main-line track at every shipper's doorstep. It's one big reason why our country has grown so great and so fast.
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HOW POOR RAILROAD EARNINGS ENDANGER NATIONAL SECURITY

The present substandard condition of railroad fixed properties is all the argument that should be needed to convince anybody that miserably low railroad earnings are injurious to the public interest. Already a large accession of military traffic has descended on the railroads and they may soon be called upon to handle a vastly increased volume, while the supply of manpower and materials will continually diminish. The only reason that railroad properties are not in better condition than they are is that the railroads simply have not had the money to spend.

The American people just cannot have, without paying for it, a railroad plant in constant readiness to meet all traffic demands. It is a disservice to the public to refrain from reminding them constantly of this important fact.

Serious Misgivings

Maybe in the case of a few railroads their fixed plant is in good enough shape to bear up under the probable increase in traffic—but there are certainly a lot of them on which those responsible for plant maintenance would readily admit to serious misgivings on this question. These officers will recall that they were unable, during World War II, to obtain more than a fraction of the manpower, rail, ties and other materials necessary to keep the tracks from deteriorating under heavy impact. They will remember how the miserable earnings of the postwar years have prevented them from making the expenditures required to remove undermaintenance. In some cases, they could show that poor earnings have so curtailed maintenance outlays that it has not even been possible to forestall further deterioration.

Leaving a really "hot" war out of consideration—not that it may not occur—the traffic load is still bound to become heavier, just to take care of the mounting production for defense purposes. It takes real optimism to believe that the railroads are not, once again, going to find themselves with a large traffic burden, while trying to maintain their properties on a starvation diet of manpower and materials. On those roads, too many unfortunately, where deferred maintenance has been accumulating in the tracks, the problem of keeping these tracks in condition to carry the prospective load is going to be some job.

Let's take ties, for instance. Tie renewals have been declining steadily for several years, largely because greater service life is now being obtained from crossties, but the trend is due in part, also, to cutbacks in tie-re-

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newal programs; and these cut-backs have been the inevitable result of poor earnings. In 1949 a slump in traffic, caused largely by strikes in the coal and steel industries, resulted in sharp cut-backs in tie-renewal programs. In that year tie renewals on the Class I railroads dropped to 30,285,046, the lowest on record and a reduction of nearly 18 per cent from 1948. The Interstate Commerce Commission estimates that tie renewals last year fell 17,000,000 short of meeting reasonable requirements. It is significant, also, that the demand for ties has continued to be abnormally low even in 1950.

What can the railroads do to escape the worst effects of this unsatisfactory tie condition? They can at least make energetic plans for greatly increased tie renewals next year, and inform tie producers without delay of their intentions. Incidentally, it is appropriate to observe that any "roll-back" of prices for ties would certainly have a disastrous effect on production. The greater the time that is allowed to elapse before aggressive action is taken to make up deficiencies in the crosstie condition, the greater will be the difficulties encountered, because it is certain that a shortage of labor will soon become a controlling factor.

A somewhat similar report could be made of deficiencies in rail on many roads, and in other aspects of track maintenance as well.

The railroads are liberal spenders when they have the money to spend. They are so imbued with the idea of providing safe, dependable and efficient service that, when they have the money, they seldom if ever hesitate to spend it to build strength into their plant against all foreseeable exigencies. The prospects of high-quality service under a largely increased traffic load are not as good as they ought to be—and it is not the railroads who are at fault, but rather the public and political inertia, which have denied the railroads the regulatory and competitive framework necessary for decent railroad earnings.

Double Objective

Much concern has been expressed on all sides regarding the inadequacy of the present supply of freight cars, and steps are being taken to remedy this situation. It would be appropriate if a similar measure of concern were shown regarding the condition of the fixed properties. Whatever belated steps can now be taken to improve conditions should be taken resolutely and quickly. Meantime, the railroads have an important story to tell the public regarding the close connection which exists between the country's present lack of logical policy in dealing with transportation, and inadequate military preparedness. They ought to neglect no opportunity to tell this story, as forcefully and dramatically as they can. If the steward does not impress the innkeeper adequately with the fact that ample provisions can be provided only if funds are ample—then the steward rather than the master may have to bear the blame if the guests complain at their meager rations.

This aspect of the railroads' public relations in a time of national peril is one which should not be overlooked in the pursuit of the other fundamental objective—namely, that of retaining public confidence in the railroads' ability to do a superlative job of transportation, whatever problems have arisen or may arise. Neither of these objectives is subordinate to the other. An accurate public understanding of the railroads' situation requires knowledge of both of these aspects of the railroad position.

CAN THE PENAL LAW PROMOTE RAILROAD SAFETY?

This paper notes with satisfaction that the trial jury in the criminal prosecution of the Long Island motorman involved in the fatal collision at Rockville Centre last February has brought in a verdict of not guilty. The justification for the penal law lies in its effect as a deterrent. This law is seldom if ever applied in cases of culpable negligence by railroad employees unless an accident results in which people are killed. Culpability in such cases arises, however, not when somebody gets killed, but whenever a signal is disregarded—but the law makes no effort to punish infractions which have no fatal results. Then it goes to work to demand penalties of great severity. In any case, the punishment is inflicted, not because the culprit violated the rules of safety, but only because the results of the violation were disastrous.

It is a good deal like a parent who would say or do nothing to deter an infant from playing with the blades of a lawnmower—but who, if the little fellow should happen to cut off his finger, would then ignore his bleeding wound and administer a sound thrashing to him. Such a system of applying penalties has little realism and does nothing to promote safe practices. A rap across the knuckles whenever young fingers are poked into the mower would forestall casualties. Excessive retributory violence only after bloodshed has occurred savors of sadism.

Restrictive signals are not installed with the purpose of causing the observer to take thought as to whether he should obey their indications or not. They are installed to the end that their indications should be automatically obeyed, regardless of whether the observer thinks they really mean danger. In city traffic a motorist who runs past a red light "gets a ticket" from a policeman, whether or not his disobedience results in an accident.

No engineman disregards a red signal with the realization that he is thereby taking a serious risk of a collision and criminal prosecution. As a matter of actual experience, he knows that the risk is usually a pretty long shot; hence it has small effect as a deterrent. Even if capital punishment were prescribed for violations of safety rules which resulted in death, little deterrent effect would probably be noted, because relatively few violations lead to actual fatalities. Moderate penalties which are certain are more effective as a restraining influence than savage

penalties which are applied in only one case in a thousand.

It would be an entirely different matter if the violator of a signal indication were made to realize—not that he is taking a chance of 1 in 1,000 of a fatal accident, and resultant criminal prosecution, but that he is taking at least a 2-to-1 chance of 90 days' suspension—or of a $100 fine—or both suspension and a fine.

Before the referees for the National Adjustment Board took to undermining discipline on the railroads by rescinding penalties, the railroads themselves could properly be held responsible for enforcing adherence to safe practices. Nowadays, however, it is at least questionable whether the power of managements in this respect is as great as is desirable for the public safety. But, if the penal law is going to be invoked with reason and to any good effect in such situations, then it should operate to punish all infractions—not, as now, being applied haphazardly in only those few cases where infractions have disastrous results.

THERE ARE STILL HOT BOXES

In an address at a joint luncheon meeting of the Coordinated Mechanical Associations at the Hotel Sherman, Chicago, on September 20, F. G. Gurley, president of the Santa Fe, discussed some of the general problems which are confronting the railroad industry today. He took the opportunity, speaking as he was before a group of mechanical men, to lay special emphasis upon some matters of importance to the industry as a whole about which the mechanical departments have considerable responsibility and can do something.

Once again, in a period in which the railroad industry faces an increasing demand for rolling stock, it has to deal with a shortage of cars and the eternal hot-box problem. Mr. Gurley, acknowledging the existence of "one of the most serious car shortages in our history," said, "I really dread the next two or three months when I think of the inability to supply the demand for cars."

Getting into a discussion of what might be done about it, he suggested that the mechanical people might do a lot toward improving the utilization of existing cars. He also suggested that car-repair programs be stepped up to the extent of working car repair shops and tracks six days a week where and when necessary.

In his approach to the hot-box problem, Mr. Gurley recognized the contributions that have been made to the productive capacity of the railroad industry by the wide adoption of Diesel power which, he said, is "probably the greatest thing in improving our overall road performance." He added, however, "We spend a lot of money in better signaling, reducing curves and other things, but as one of our fellows said the other day, we put three hundred thousand dollars into reducing curves, improved signaling and Diesels and we are stopping at the same place for the same hot box every day."

This matter of hot boxes seems always to be with us, and at some time during each annual mechanical meeting an important railroad officer calls attention to the fact that not much improvement has been made. If, as Mr. Gurley suggests, delays on the road due to hot boxes are wiping out, in time and dollars, some of the advantages the railroads have invested millions of dollars to secure, the solution may not be entirely a mechanical-department matter. It appears to be a situation which railroad management must, if necessary, attack jointly with the idea of finding out, first, just what the facts really are and, second, spending the money to eliminate the causes of expensive road delays due to hot boxes.

WHO'LL SHARE WHAT?

One of the ways to prove "our right to freedom," said John V. Lawrence, managing director of American Trucking Associations, Inc., in a recent speech at Clarksburg, W. Va., "is to show restraint and wisdom in sharing the things we have now that must be shared, like our highways."

We fully agree with Mr. Lawrence. To be more specific, so far as highways are concerned, the "restraint," "wisdom," and "sharing" which he advocates could well begin, like charity, at home, i.e., with the truck operators whom he represents.

Restraint might well be shown by abstaining from violations of load and speed limits established for protection of highways and other highway users. Wisdom could take the form of refraining from political efforts to legalize the operation of larger and heavier vehicles on expensive roads which competent engineers say are being destroyed by vehicles of the weight now tolerated. And as for "sharing," any motorist who has ever fearfully threaded his way along any heavily trucked route—say U.S. 1 south of New York City or New Jersey 17 north of it—could give Mr. Lawrence some pointers on the share of the road a big truck is now taking, compared to that to which it is fairly entitled.

"What They're Saying About the Railroads"

This is a nation of vast distances and of immense productivity—which means a demand for transportation in unparalled quantity and variety. To provide those services, the nation needs and uses many agencies; and will continue to do so. Some of them will naturally do some things better than will the railroads—but I am still among those who feel that no one of them, nor all of them put together, can take the place of the railroads. It is only on tracks that trains can run—and I am one of those who believes also that only in trains of cars can there be produced the vast volume of transportation service which this country needs—at a proper cost to the users.—*Earl B. Smith, vice-president and director of traffic, General Mills, Inc., before the New England Shippers Advisory Board.*

IN THE DAYS WHEN FIRE-FIGHTING EQUIPMENT WAS DRAWN BY HORSES, NOT MUCH THOUGHT WAS GIVEN TO BOILER WATER CARRYOVER.

But, as fire-fighting equipment improved, progress was also made in locomotive boilers, always with the thought of efficiency, which must take into account the moisture content of the steam generated—for wet steam delivered to the superheater means lower temperature steam to the engine where work is performed and efficiency counts.

Regardless of design, the efficiency of any locomotive boiler and engine performance can be greatly improved by separation of the moisture in the steam leaving the boiler.

Research has dug deeply into the facts about Boiler Carryover and the results are contained in a paper that was presented before the American Society of Mechanical Engineers – *copy if you wish.*

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Tonnage Ratings for Diesel Power

A detailed analysis of the factors that enter into the computation of ratings for this type of locomotive and the manner of application

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Tonnage rating may be defined as the maximum tonnage that a specific type of locomotive can haul over a given territory within the time allotted for the service designated and without imposing overloads on the equipment which would result in excessive maintenance costs. Anyone developing this maximum tonnage must keep in mind the characteristics of the locomotive involved.

The Diesel locomotive of today was made possible by the use of electrical transmission of power from the prime mover to the driving wheels. Although other methods of transmission have been applied successfully to units of 500 hp. or less, the electrical transmission is the only kind which has been found suitable in units with Diesel engines developing from 1,000 to 2,500 hp. each.

Any electrically driven locomotive has three well defined limits which affect hauling capacity and train operation. These are:

1—Maximum tractive force for train starting.

2—Maximum locomotive speed as limited by safe rotational speeds of traction-motor armatures.

3—Safe temperatures of electrical apparatus.

Maximum starting tractive force usually depends upon the effective weight on driving wheels and the coefficient of adhesion between these wheels and the rails. A maximum tractive force equivalent to 25 per cent of the weight on drivers is usually considered as normal.

All locomotives have a maximum speed value limited by mechanical considerations. For a reciprocating steam locomotive, this limit may be fixed under the speed at which dynamic unbalance of reciprocating and rotating parts would damage the track or equipment. For electric drive, the maximum speed is usually fixed by the rotational speed of the traction-motor armatures

This article is adapted from a paper presented at the annual meeting of the Locomotive Maintenance Officers' Association at Chicago, September 18.

which causes centrifugal forces severe enough to damage bandings and windings. It is customary to limit such rotational speeds to values consistent with reasonable electrical maintenance. For a given wheel diameter and gear ratio, this maximum armature r.p.m. fixes the maximum locomotive m.p.h.

Limits in maximum tractive force and in locomotive speeds are important, of course, but operation within such limits may be controlled mechanically. The most important limitation in the operation of electrically driven motive power from the standpoint of expense to the railroad and locomotive reliability stems from tonnage loadings. In the operation of steam motive power this limitation is of secondary importance because while overloading may cause inconvenience, it will not result in damage.

The adoption of electric drive introduces a number of new factors placing a rigid limit on the tonnage which may be handled over a given profile. On some locomotives, the time-temperature factor is most important. Excess tonnage may cause the electrical propulsion apparatus to overheat and become damaged, and this damage is seldom immediately evident from casual inspection. Increases in the electrical capacities of this propulsion apparatus serve to reduce the possibilities of overheating, but if large enough electrical equipment were installed to insure that it could never be overheated, the average locomotive would be burdened with excessive cost and weight.

As there is no specific method by which the average operating man can determine how far he may safely overload such motive power, and there are no reliable devices or circuits for immediately indicating the effect of overloading, it is of prime importance that correct tonnage ratings be established and strictly observed. Road service imposes a more severe load on the Diesel engines and electrical equipment than normal switching service.

It has been found that electrical maintenance for the road Diesel holds at a reasonable level if the sustained tractive force does not exceed 13 per cent of the weight on drivers for passenger service and 18 per cent for freight service.

Some of the limitations of the Diesel electric locomotive, which affect tonnage ratings are: (1) the magnitude and duration of electric overload permissible in negotiating a certain grade or succession of grades; (2) tractive force attainable without excessive slipping, depending upon weight on driving wheels; and (3) the average sustained speed which can be maintained with the horsepower available.

In order to provide a better insight into the procedure involved in developing tonnage ratings a sequence of steps should be followed: (1) preliminary investigation, (2) determining the tentative tonnage rating, (3) analyses of operating data and performance tests, and (4) issuing the permanent tonnage rating.

Preliminary Investigation

Preliminary investigation naturally precedes the actual rating computations, and covers (1) nature of service, (2) breakdown of line into districts, and (3) tonnages handled currently over these various districts with existing power.

It is necessary to ascertain what services will require establishment of tonnage ratings; for example, scheduled freight, general or specific runs, or slow freight trains, or local freight and mine runs. In isolated cases, an analysis of operating conditions might reveal that special ratings should be set up, such as one for an all empty-car train in the direction in which loaded traffic prevails. Locomotive runs should also be subdivided into rating districts related to grade conditions as a limiting factor, in light of the kind and density of traffic handled.

Established tonnage ratings for other power used in the same territory are helpful. If these are not available, information may be obtained from analyses of operating records, wheel reports and dispatcher's train sheets.

These must be consulted in checking the additional loading made possible by use of helpers on certain grades or the economics of eliminating helpers through multiple-unit Diesel combinations.

Determining Tentative Ratings

Tentative tonnage ratings should be distributed to all concerned, particularly those responsible for the operation of locomotives, prior to the assignment of a new type of power to a territory. The purpose of such ratings, usually determined by office computation, is to provide a working base with ample protection against unfavorable factors which can be evaluated after sufficient experience has been obtained in actual operation.

It is a good practice first to determine a slow-freight or maximum rating. In some instances this will be the only rating necessary; any other required will be lower than the slow freight rating. Assuming that the locomotive characteristics are known, the tonnage rating for a certain district depends upon (1) hauling capacity of the locomotive on the ruling grade, (2) desired running time between critical points, usually between terminals, (3) other physical limitations such as siding and braking capacities, and (4) allowances for contingencies.

The hauling capacity of a locomotive depends upon its tractive force, which is utilized in overcoming the sum total of resistances offered by the locomotive itself and the trailing load. When a steam or a Diesel-electric freight locomotive is worked at full capacity, its tractive force is higher the lower the speed, and decreases as the speed increases. If both had the same maximum rated horsepower, the tractive force of the Diesel would increase much more than that of the steam locomotive for a given increment of decrease in speed below 15 m.p.h. This is due to the characteristics of the electrical transmission.

In steam locomotives, accepted design places maximum tractive force (when working at full cut-off and moving at speeds of 5 m.p.h. or less) at about 25 per cent of the weight on driving wheels. For the Diesel, however, the maximum permissible tractive force is limited by either rail adhesion or allowable short-time overloading of electrical equipment.

The forces which have to be overcome by the tractive force in determining the hauling capacity of a locomotive are grade resistance, curve resistance, tractive resistance, and the effect of inertia.

Grade resistance is due to the force of gravity alone and is independent of train speed. It is the force required to raise the weight of the locomotive and trailing load along the grade. This force amounts to 20 lb. per ton of locomotive and train weight for each one per cent of gradient, i.e., for each one foot of rise in 100 ft. of track.

Curve resistance is also independent of train speed. On curved track, the slippage of wheel treads on rails and flange friction against rail heads due to trucks guiding and to the action of centrifugal force result in an increase in resistance to motion along the track over and above that found on straight track. For Diesel locomo-

tives, with relatively short rigid wheel bases, and for freight cars, curve resistance is generally accepted to be 0.8 lb. per degree for each ton of locomotive and train weight. Degree of curve refers to the number of degrees of central angle subtended by a 100-ft. chord measured across an arc of the curve.

In tonnage-rating calculations, it is convenient to state curve resistance in terms of equivalent grade resistance. Thus since 0.8 lb. is to 20 lb. as 0.04 per cent is to one per cent, it follows that the resistance offered by a one-degree curve is equivalent to that resulting from a 0.04 per cent grade. On this basis, 6-deg. curves on level track offer the same amount of resistance as would be produced by a 0.24 per cent ascending grade of the same length. The same curve on a 1.0 per cent ascending grade would have the effect of increasing the rate of that grade to 1.24 per cent.

Curve resistance always acts to retard the movement of the train and on descending grades it opposes the downward pull of gravity. For example, a 6-deg. curve on a 1.0 per cent descending grade would have the effect of reducing the rate of that grade to 0.76 per cent throughout the length of the curve.

The term "equated grade" is frequently used to designate the per cent grade including adjustment for curve effect. A grade may be "compensated" for curvature by reducing the gradient through the curve to take out an amount of grade resistance equal to the curve resistance.

Equated grade may be computed from gradients of the line shown on detailed profiles and from degrees of curve shown on alinement maps. Track charts which show both grade and alinement may also be used if they show sufficient detail. Average equated grade values should be calculated for the length of train being considered since several different grades may be occupied simultaneously. It is at or near points where the average equated grade is greatest that minimum train speed and maximum tractive force are likely to occur. Therefore, within a given rating district, there is usually a "ruling grade" which limits the train load that can be hauled over the district.

"Tractive resistance" (so called here for the sake of brevity) is composed of the combination of forces which must be overcome to move the locomotive and cars at a uniform rate of speed on straight, level track. It exists whenever and wherever the train is in motion, and must be added to the resistances due to grade and curvature. Tractive resistance varies with speed, temperature of atmosphere, number and arrangement of axles, kind of journal bearings, lubrication, and shape and cross-sectional area of locomotive and cars. For determining values of these resistances, formulas devised by W. J. Davis, Jr., are recommended. Based upon studies of authoritative data, they are generally accepted as yielding consistent and reliable results and may be found in locomotive handbooks and similar volumes. Suffice it to say here, that for a given uniform speed, the tractive resistance in pounds per ton of locomotive or car weight, decreases as the average locomotive or car unit weight increases, or for a given locomotive and train, it increases as the speed increases.

Tests have shown that changes in atmospheric temperature above 35 deg. F. do not affect tractive resistance. Below this temperature, resistance increases rapidly and it is necessary to make allowance for it in tonnage rating. This will be discussed later along with "adjusted tonnage rating."

Inertia is that property of matter by which it tends to continue in the state of rest or uniform rectilinear motion until acted on by some force. If the motion of locomotive and cars in a train is to be changed to a faster rate of speed, an "accelerating" force is needed in addition to those acting to overcome grade, curve and tractive resistances. If the train movement is changing to a lower rate of speed, as on a "momentum" grade, inertia is utilized in helping to overcome the grade, curve and tractive resistances. In braking, the "braking effort" must overcome the inertia and the effect of gravity on descending grades. When in motion, curve resistance and ascending grade resistance assist braking effort in overcoming inertia.

Forces needed to overcome inertia follow the fundamental laws of motion and in combination with rotational inertia of wheels, axles, motor armatures, and gears, may be expressed as being equivalent to approximately 100 lb. per ton of train weight to produce speed change at the rate of one mile per hour per second.

The train speed at which all of the available tractive

force is just equal to that required for overcoming the grade, curve and tractive resistances (leaving no net tractive force for acceleration) is called the "balance" speed.

Diesel-electric locomotives are capable of absorbing some overloading without injury. The question to be considered, of course, is how much? Electric current passing through the windings of an electrical machine generates heat and this heat increases approximately as the square of the current value. Thus, if the current is doubled, four times the heat is generated. Heavy tractive force requires high amperage and consequently considerable dissipation of heat. Since the ventilating system can get rid of only so much of this heat, excess tractive force means a rapid rise in the internal temperature. If the current value (and consequently tractive force) can be sustained continuously with the ventilating system carrying off heat at the rate that it is generated, the equipment is considered as operating within "continuous rating."

Ratings taking advantage of short-time overload are sometimes desirable to permit a Diesel locomotive to handle over a run a higher tonnage than a single grade or series of grades encountered will allow within continuous rating. These overload ratings are established by starting with some temperature condition, as for example, continuous rating, and fixing the time required at each elevated current value or tractive force to reach a temperature just under that considered dangerous to the equipment.

All manufacturers of Diesel-electric locomotives furnish operating manuals for the benefit of the users of their product. For a particular class locomotive, the manual will specify the overload limits as certain maximum distances or times that should not be exceeded when operating in excess of continuous rating, on a "load indicator." This is usually a meter indicating amperes flowing in a main-generator or traction-motor circuit. If the ammeter indicates that overloading has taken place, manufacturer's instructions usually require a related "cooling" period of operation below continuous rating amperage before overloading is again allowed.

The maximum amperage which can be passed through the electric propulsion equipment of any make, design and cooling capacity, within its continuous rating, bears a definite relationship to the ratio of gearing between traction motor armature and driving axle. Within the past few years the design, insulation, and cooling of this equipment have been improved to such an extent that Diesels in road freight service can now be operated at full load within continuous rating down to a speed of 10 m.p.h. and also run as fast as 65 m.p.h. within the limit of safe rotational speed of traction-motor armatures. Maximum tractive force of these locomotives within continuous rating ranges from 18 to 22 per cent of the weight on driving wheels.

Tractive force equivalent to about 25 per cent of a Diesel-electric locomotive's weight on drivers can be utilized in starting a train on dry rails or on wet rails using sand.

However, at 10 m.p.h. this coefficient of adhesion drops to approximately 18 per cent. Consequently *modern* freight Diesels are so designed that any appreciable excess over continuous rated tractive force will induce wheel slippage. They are also equipped with devices for momentarily reducing the power to the motors as soon as there is a tendency for a pair of wheels to slip. Hence, this feature, in conjunction with automatic transition of traction-motor circuits and field shunting, renders these locomotives practically self-protecting with regard to safe operating temperature of electrical equipment.

When helpers enter the picture, the basic principles for computing ratings are unchanged. However, when a Diesel locomotive is helped by a steam locomotive, the full slow-freight rating for the latter usually cannot be added to the Diesel rating. The reason for this is that when the Diesel is working at full load, the speed may not drop below a fixed minimum, according to continuous rating or allowable short-time overload limitations, as the case may be. This minimum speed is usually higher than that at which the steam locomotive exerts its maximum tractive force. Therefore the combined tonnage rating must be computed at the minimum allowable speed for the Diesel.

The tonnage limited by the capacity of the locomotive on ruling grades should be checked to determine whether it can be hauled between critical points (usually termi-

Examples of the Manner of Applying Tractive Force Formulas

PROBLEM 1: Assuming that short-time overload and inertia considerations have established the minimum speed for a 3,000-hp., 240-ton, Diesel freight locomotive at 12 m.p.h., occurring where an ascending grade is one per cent and the average curvature is two degrees, find the maximum trainload of cars having an average gross weight of 50 tons each. Entire weight of locomotive is on driving wheels.

SOLUTION: Tractive force at 12 m.p.h. from manufacturer's specification which is less than 86,400 lb. (18 per cent of weight on drivers) and therefore all available without tendency to slip. 75,000 lb.

Less locomotive tractive resistance:
- Per ton (Davis formula) 2.80 lb.
- Total (240 tons by 2.80 lb. per ton) 672 lb.

Less grade and curve resistance for locomotive:
- Profile grade ..... 1.00 per cent
- Equiv. grade, 2 deg. curve (2 deg. by .04) ..... 0.08 per cent
- Average equated grade ..... 1.08 per cent
- Resistance per ton (1.08 per cent by 20 lb.) .....21.6 lb.
- Total resistance (240 tons by 21.6 lb. per ton) ..... 5,184 lb.
- Drawbar pull available for hauling trailing load ..... 69,144 lb.

Resistance of trailing load:
- Tractive resistance, 50-ton freight cars at 12 m.p.h. (Davis formula) 4.28 lb. per ton
- Equated grade resistance (as for locomotive) ..... 21.60 lb. per ton
- Total ..... 25.88 lb. per ton

Trailing load which can be hauled by Diesel locomotive under given conditions is 69,144 lb. divided by 25.88, or ..... 2,672 gross tons

PROBLEM 2: Train consisting of cars with an average gross weight of 50 tons each on tangent track on 0.60 per per cent ascending grade. Find gross weight of trailing load which can be started by a 3,000-hp., 240-ton, Diesel freight locomotive with entire weight on driving wheels.

SOLUTION: For starting, assume 25 per cent of weight on drivers as tractive force available without slipping, therefore:

Starting tractive force (.25 by 240 by 2,000) ..... 120,000 lb.

In order to compensate for "breakaway" resistance and higher initial rate of acceleration from rest, it has been found practical to compute starting resistance at three times the tractive resistance at a uniform speed of 5 m.p.h.; therefore:

If Diesel locomotive tractive resistance at 5 m.p.h. (Davis formula) is 2.45 lb. per ton, the locomotive starting resistance is (2.45 by 3 by 240)... 1,764 lb.

Grade resistance for locomotive (0.60 by 20 by 240) ..... 2,880 lb.

Curve resistance for locomotive ..... 0 lb.

Drawbar pull available for starting trailing load is 120,000 minus 1,764 minus 2,880, or ..... 115,356 lb.

Resistance of trailing load:
- Tractive resistance for 50-ton cars at 5 m.p.h. (Davis formula) is 3.86 lb. per ton.
- Starting resistance (3.86 by 3) ... 11.58 lb. per ton
- Grade resistance (0.60 by 20) .... 12.00 lb. per ton
- Curve resistance 0
- Total ..... 23.58 lb. per ton

Trailing load which can be started is 115,356 divided by 23.58, or .... 4,892 gross tons

nals) within allotted times. These times for tentative rating purposes can be assumed the same as for present power in the territory, as shown in the timetable or as derived from statistical analyses of operating reports.

A simplified time check can be made with the aid of curves, which can be plotted to show "balance" speeds vs. grade and trainload for a given class locomotive and weight per car. For the computed tonnage, balance speeds may be interpolated from such curves for various sections of more or less constant equated grade. The balance speed is then modified to an estimated "average" speed based upon judgment of effect of inertia, speed restrictions, and required stops, from which average times are computed and totaled. If the total time is less than the scheduled freight time, which is probable when Diesels are replacing steam locomotives, the computed tonnage will be satisfactory for both slow and fast service, subject to certain further checks which will be mentioned later. If the computed tonnage cannot be hauled within the allotted fast-freight time, then lesser tonnages may be assumed and checked in the manner just mentioned, until a satisfactory value is found.

Other physical limitations which must be considered in the determination of tonnage ratings are siding capacities and adequate braking ability down long steep grades. Whether or not sidings may be limiting depends partly upon local operating practice, since long trains may be "sawed by" each other if necessary. If siding lengths are considered absolute, however, the tonnage ratings should be converted to train length based upon estimated average weight and length of car, and modified downward if necessary.

As to braking limitations, if there is doubt that computed heavy tonnages can be handled safely down long steep grades, a study should be made to determine whether tonnages are within (a) the capacity of the automatic air brake with use of retainers, if the Diesel is not equipped with dynamic brake, and (b) the capacity of dynamic brake plus automatic air brake with use of retainers, if the Diesel has dynamic brake.

Tonnage ratings must also be examined in the light of certain factors which are unknown or difficult to evaluate, and which may necessitate reductions in the interest of safe and economical operation. Some of these contingent factors are (1) accuracy of manufacturer's data, (2) accuracy of profile and alinement charts, (3) condition of track and road bed, (4) accuracy of tonnage computation by yard forces, and (5) accuracy of loadmeter calibration.

The actual amount of reduction made in the rating

will depend on knowledge of the capabilities of the motive power based on experience, and ratings determined from grade conditions will warrant greater reduction than those that are limited by running time or siding capacity.

Analyzing the Data

The third step is analyses of operating data and performance tests. After the Diesels have been placed in service hauling tentative tonnage ratings, an analysis of operating reports should be made to determine how performance is being affected. When time is the only factor statistical analysis will usually be sufficient to establish a permanent rating. However, if short time overload or adhesion limits are governing, as usually happens in case of slow freight service, actual field tests provide the only satisfactory means for evaluating these limits with respect to particular ruling grades.

Tonnages hauled on test trips need not be those at which permanent ratings are finally established. However, recorded data from these trips are the basis for closer determination of the critical locations where maximum permissible tractive force will occur. These locations can then be studied and the proper rating recomputed as already outlined. Obviously, both theory and practical tests are important in fixing permanent ratings.

This brings us to the fourth step—that of issuing permanent tonnage ratings. All tonnage ratings, whether tentative or final, should be published in easily readable tabular form. A typical tabulation of tonnage ratings for a division should be broken down according to nature of service, runs and class of road power, without help or with helpers where required.

The term tonnage, as used in the foregoing, has referred to actual 2,000-lb. short tons. Some railroads issue ratings in terms of actual short tons to be hauled; others, use "adjusted tons." Because tractive resistance varies with car weight, tonnages should really be computed and listed for trains consisting of various average weights of car. However, ratings varying with car weights would not only complicate rating tabulations, but would be inconvenient—and, in many cases, impracticable—for use by local operating personnel. One alternative would be a single rating based upon the highest value of tractive resistance—that of empty cars. But this would result in ratings being too conservative for trains consisting of heavily loaded cars.

The adjusted tonnage system more fully utilizes the locomotive capacity by allowing for a single adjusted tonnage regardless of car weights for a given locomotive class and run. The method for computing adjusted tonnages provides for an "artificial" or "adjustment" tonnage to be added to the actual gross tonnage of each car.

The amount of adjustment so added is determined mathematically for a given grade value, and is shown on the rating sheet. In building up a train, the sum of the adjusted ton car weights should be approximately equal to the adjusted tonnage rating required.

The system is not perfect in that it theoretically requires a different adjustment for each ruling grade, but where several ruling grades must be considered the situation is usually resolved by assigning a single compromise value.

Temperature variation can also be conveniently handled in the adjusted-tonnage method, by increasing the adjustment factors for lower ranges of atmospheric temperature, thus:

Above 35 deg.—Normal adjustment factor.

Between 20 and 35 deg.—50 per cent increase in adjustment factor.

Between 0 and 20 deg.—100 per cent increase in adjustment factor.

Below 0 deg.—150 per cent increase in adjustment factor.

Spray Cooling of Diesel Radiators

A method of spray cooling Diesel-electric locomotive radiators, worked out by the Denver & Rio Grande Western, has effectively disposed of overheating in tunnels. The greatest difficulty was encountered in the Moffat Tunnel in which there is a 0.9 per cent grade eastbound from the west portal to the center of the tunnel. Train speeds in freight service in the tunnel are 14 m.p.h. and the need for extra cooling occurs particularly in the third and fourth units of the locomotives. These units must use air which has been heated by the first and second units. The temperature at face level in the fourth-unit engine room sometimes reaches 175 deg. F. with an ambient temperature of 62 deg. F.

A maximum temperature of 210 deg. F. has been measured in the radiator intake of the fourth unit. This is also aggravated by the fact that the engine intake air on the rear units has an oxygen deficiency which causes the engines to burn more fuel.

The situation was corrected by applying a water spray to the radiators of the rear units. Each unit is equipped with a 75-gal. tank for this purpose. When cooling is needed water is forced from tank by main-reservoir air pressure or is pumped by a rubber impeller type pump to three vertically mounted spray nozzles placed 14 in. below each radiator bank. The nozzles throw water in a conical spray at the rate of three gallons per minute maximum.

A solenoid valve is opened, or the pump is started automatically, when the engine temperature reaches a critical value. The control circuit is also carried through the control train line of the four-locomotive units. There is a manually operated switch in the cab which may be used to prevent loss of water which might occur when the spray is not needed.

A loop from the engine-jacket water is used to heat the cooling water in the 75-gal. tank. This was installed originally to prevent freezing. In practice, hot water has been found more effective in cooling than cold, since it evaporates quickly on the radiator. It thus uses the heat of vaporization, and is not lost by running off. The spray brings the engine operating temperature down to normal in about two minutes. The cooling arrangement was worked out by the Electro-Motive Division of General Motors Corporation and P. F. Giesking, superintendent of Diesel equipment of the D. & R. G. W.

Maurice N. Trainer Elected President of American Brake Shoe; William B. Given Becomes Chairman

Maurice N. Trainer, whose election to succeed William B. Given, Jr., as president of the American Brake Shoe Company was briefly reported in *Railway Age* of September 16, page 94, was born in Trainer, Pa., on January 7, 1889. After graduation from the William Penn Charter School in 1906 he entered the University of Pennsylvania from which he received a bachelor's degree in electrical engineering in 1910. In June, 1910, he joined the Public Service Railway (now the Public Service Coordinated Transport Company), in Newark, N. J.

Mr. Trainer joined American Brake Shoe in January, 1916, as a brake shoe inspector and subsequently moved up through the company's sales departments. In 1938 he became president of the Brake Shoe and Castings division. Five years later he was elected first vice-president of the firm and in 1944 he was elected to the board of directors. Mr. Trainer also is president and a director of the Dominion Brake Shoe Company, a Canadian subsidiary.

William B. Given, Jr.

Maurice N. Trainer

The New Chairman

Mr. Given, whose election to chairman of the board also was announced in *Railway Age* of September 16, was born in Columbia, Pa., on December 7, 1886. A student at the Hill School, Pottstown, Pa., from 1899 through 1904, and at the Massachusetts Institute of Technology from 1904 to 1907, he received, in 1908, a Ph. B. degree from the Sheffield Scientific School of Yale University. He joined Brake Shoe in 1911 as secretary to the president. After two years service with the "Fighting 69th" regiment in World War I he returned to the company, becoming assistant vice-president in 1919 and vice-president in 1921. Mr. Given was elected president in 1929, holding that office until his election as chairman. "Bottom-Up Management; People Working Together," a book by Mr. Given, was published late last year and reviewed on page 40 of the *Railway Age* of December 24, 1949, page 40.

The American Brake Shoe Company, incorporated in 1916 as the American Brake Shoe & Foundry Co. to succeed a company of the same name incorporated in 1902, has functioned under its present name since April 27, 1943. It operates fifty plants in the United States, three in Canada and one in France. Among its many diversified products are railroad brake shoes, freight car wheels, journal bearings, special trackwork and locomotive parts. Approximately 54 per cent of the firm's $91,734,580 of shipments in 1949 consisted of railroad supply material, compared with 59 per cent in 1948, according to the firm's annual report for 1949 which was summarized on page 102 of the *Railway Age* of March 11, 1950.

Consistent Research Program

For the six months ended last June 30 American Brake Shoe's net sales totaled $46,489,716, compared with $53,459,897 in the first half of 1949. Net income was $2,529,800, compared with $2,703,095. Unfilled orders on June 30 amounted to $16,000,000, compared with $15,604,000 a year ago and $14,400,000 on January 31, 1950.

The company's competitive position in established fields, as well as its development of new products and processes, has been promoted by an aggressive research program. In 1949 total costs for research were $1,000,000, about the same as in other postwar years. A 5-year study by the company of damage to railroad ties by excessive rail and tie plate movement is said to offer promise of savings to railroads. To minimize these movements and reduce wear, an improved rail anchor, a drive-tight spike and a weather-resistant tie pad are in laboratory and field tests.

The most extensive project in the firm's metallurgical laboratory continues to be the search for a better wheel for railroad freight car service. Road tests undertaken as part of this project are said to continue to be encouraging and the company has reported that significant advances have been made in the study of production methods and costs. Additional development work involves revision of wheel design to reduce weight. A new method of making highly stressed Diesel engine bearings also is being investigated.

"In peacetime, the American people are entitled to the best transportation at the lowest possible cost, considering, of course, all true factors of cost. In wartime, it is even more important that all transportation agencies work in the field where they can make the greatest contribution to the security of this nation. It is certainly no time for waste of manpower or fuel, irrespective of whether it be coal, gasoline or oil. It is no time to insist that trained railroad men and needed railroad equipment be used inefficiently on trains operated only to serve some few people. We must think less of security for ourselves but think more and do more about the things that will give us national security and personal freedom. It is a time when possibly both labor and management, and those in professional life, must talk less about their rights and more of their obligations." — *From an address to the Up-State Bar Association of New York at Jamestown, N. Y., by Paul W. Johnston, president of the Erie.*

The Contrailer . . . *A common carrier freight tool designed to regain for railroads off-rail tonnage*

With the aid of a new freight transport tool, the Contrailer (abbreviated from container-trailer), which increases by 65 per cent the volume of truck-loaded freight a railroad flat car may carry, it now will be economically practical to coordinate rail and otherwise competitive motor transport to a greater extent than ever before. This vehicle, which is to be available on a lease basis exclusively to railroads, also would make it possible for railroads to be non-dependent on competitive motor carriers to originate tonnage for movement in trailers for long-haul rail movement.

This new transport tool only requires an ordinary flat car for rail movement, and an ordinary truck-tractor at terminals for highway movement and for transfer to and from a flat car. The flat car is equipped with two tubular guide rails at Contrailer frame-height for each Contrailer thereon, with two hinged clamps for rear and a screw clamp for the front which accurately position and rigidly secure the Contrailer to the deck of the car. This hybrid transport vehicle has the single-level low floor of a packing case or container, with suitable components of a semi-trailer integrally built into and not separable from the body.

Contrailers may be made in any desired length. When they are to be loaded on flat cars, all of the rear clamps are in the "down" or unloading position except the one pair at the extreme end of the line of cars. The first Contrailer to be loaded is backed over the inoperative clamps until it engages the one pair of clamps at the extreme end. The support wheels then are swung down (they are spring retained, up or down) and the tractor is pulled out from under the kingpin frame. As the forward end of the Contrailer drops down on the support wheels, the cam contour surfaces engage the 5½-inch tubular guide rails on each side, to center the Contrailer transversely of the car, so the front clamp will register with the 2¼-inch diameter clamping bolt integral with the kingpin frame, when it is hinged down to the clamping position. As the clamping bolt (in the kingpin frame) is tightened, the kingpin frame is forced back against the bottom end frame of the Contrailer, forcing it back against the rear clamps and securing the Contrailer to the car deck against movement in any direction. Auxiliary locks also anchor the Contrailer frame directly to the car guard rail on each side.

The triangular spacing of the clamps on the flat car's deck permits reversing the pattern, and mounting two sets of opposed clamps, so that Contrailers may be loaded from either direction. This feature is particularly useful for cross-loaded cars where the loading platform would not always be on the same side of the track. Special Contrailers of more than 600 cu. ft. capacity, requiring but 8 ft. 6 in. of car length each, may be cross-loaded on flat cars and unloaded, without cutting train lines, from car floor height platforms.

There is no need for any special equipment to haul the Contrailer beyond the flat car. The hinged kingpin frame, which folds flat against the front of the body so that it will take up no space when the Contrailer is on the flat car, is readily extended to the standard fifth wheel of a tractor for operation on the highway.

In this integral container-trailer the full-length low floor, and the compactness of the hinged kingpin framing, combine to increase its body cubic capacity 65 per cent over other vehicles of the same length and height. Thus, for vehicles of the same cubic and tonnage capacity, five Contrailers occupy the same space on a car as three semi-trailers. A train of flatcars loaded with Contrailers would be 40 per cent shorter than if the same tonnage

BASIC REVENUE POTENTIAL OF FLAT CARS WITH CONTRAILERS

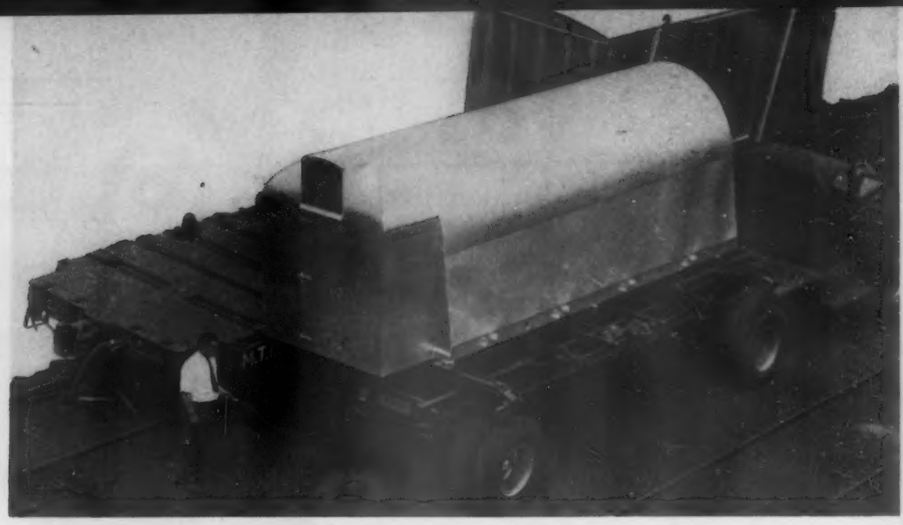
Length of flat car	40 ft. 3 in.	59 ft. 2 in.
Number of Contrailers per car	3	4
Cubic feet cargo space per Contrailer	900	1,000
Cubic feet cargo space per car	2,700	4,000
Overall length per Contrailer, on car	13 ft. 4 in.	14 ft. 8¼ in.
Pounds cargo per Contrailer at 16 lb. per cu. ft.	14,400	16,000
Pounds Contrailer tare weight	5,000	5,500
Pounds loaded Contrailer weight	19,400	21,500
Pounds total cargo weight in Contrailer per car	43 200	64,000
Pounds total loaded weight of Contrailer per car	58,200	86,000
Rail revenue per car-mile at 1.4c per ton-mile loaded wt.	40.74c	60.2c
Rail revenue per Contrailer mile	13.58c	15.05c
Days per trip — **Annual rail revenue per car** (250 days):**		
1 Annual revenue per car at 100 mi. per one-way trip	$10,185*	$15,050*
1 Annual revenue per car at 200 mi. per one-way trip	20,370	30,100
1 Annual revenue per car at 500 mi. per one-way trip	50,925	75,250
2 Annual revenue per car at 800 mi. per one-way trip	40 740	60,200
2 Annual revenue per car at 1,000 mi. per one-way trip	50,925	75,250

*Note: Revenues shown are at minimums based on 16 lb. cu. ft. weight density cargo, and will increase 33 per cent with 23.1 lb. per cu. ft. cargo. The weight of the Contrailer is included in the tonnage at 1.4c per ton-mile, while the rate on actual cargo in the vehicles is taken as 1.88c per ton-mile.

**Note: 1 car each way per day up to 500 mi. requires 2 cars, each at the revenue shown and 1 each way per day for 500 to 1000 mi. requires 4 cars.

A night view of a New York, New Haven & Hartford train carrying flat-car-mounted conventional trailers

By E. H. WILLETS



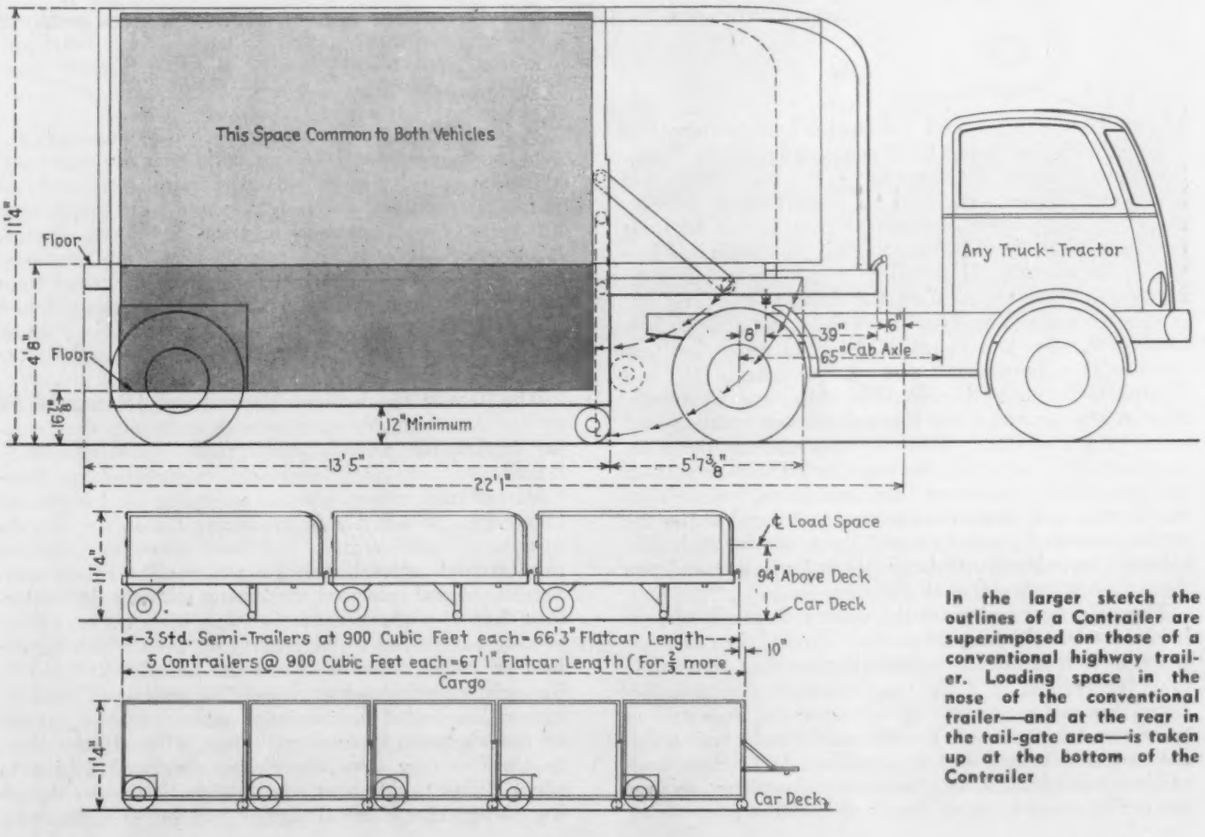
One method of integrating railroad and highway transport

were loaded on the flats in conventional trailers. This same economy applies to terminal space and to the tare weight of the car per unit of revenue.

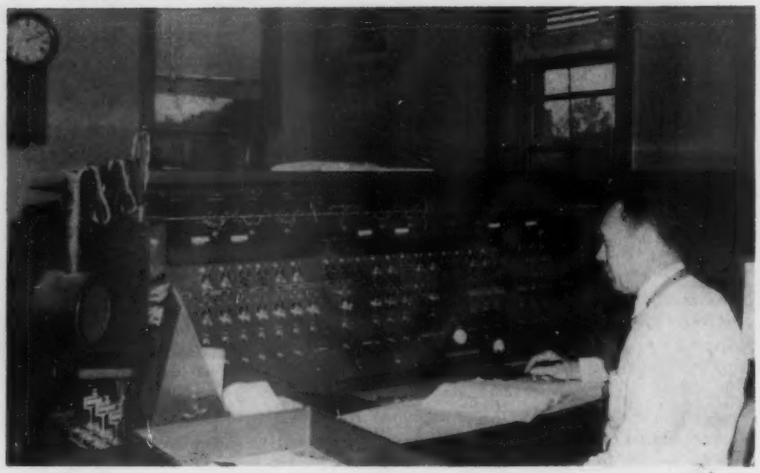
The hazard inherent in the operation of trailer-flat car service at passenger train speeds, due to high center of gravity of loaded semi-trailers, is reduced by the Contrailer because its center of gravity is lower than that of the conventional semi-trailer. With a 25,000 lb. load of 50 lb. weight-density freight the center of gravity is 26.8 in. lower; it is 16.0 in. lower with the same tonnage of 20 lb. weight-density freight and 9.25 in. lower without load.

Highway payload capacity is not sacrificed to secure this lowering of the center of gravity. No mechanical appurtenances need be added to the ordinary truck-tractor which moves it over the highway and transfers it to the flat car for line haul. Contrailers are used in the same manner as ordinary trucking vehicles at the premises of shippers and consignees for pick-up and delivery services. The full length low floor enables full use of platform hand trucks and of mechanical loaders. Three Contrailers of 900 cu. ft. capacity each, or two Contrailers of 1,400 cu. ft. capacity each, may be loaded on a 40-ft. 6-in. flat car. Contrailers may be made in any size to suit the conditions, and for carrying coal, gas or oil.

Contrailers are patented in the United States, Canada, and Great Britain. They are available only to railroads for scheduled daily departure in round-trip line haul by rail, but are not directly available to shippers or private carriers. In this way both rail and motor transport services can preserve the economies achieved through Contrailer service, without sacrificing their general rate structures needed to insure reasonable earnings without prejudice to shippers.



In the larger sketch the outlines of a Contrailer are superimposed on those of a conventional highway trailer. Loading space in the nose of the conventional trailer—and at the rear in the tail-gate area—is taken up at the bottom of the Contrailer



Above left—Schematic plan of C.T.C. territory. Above right—The C.T.C. is controlled by this machine

Sidings Spaced 10.6 Miles For Light-Traffic C.T.C.

By installing power switch machines and controlled signals at only six of the previous 16 sidings on 84 miles, the St. Louis-San Francisco justifies C.T.C. rather than automatic block alone

On an 84-mile single-track line, which handles important through traffic but only 8 to 12 trains daily, the St. Louis-San Francisco cut the cost of centralized traffic control by equipping only six sidings. Nevertheless, this installation has proved of much greater benefit in train operation than would conventional automatic block—which, incidentally, if installed at all the previous 16 sidings, would have cost almost as much as the C.T.C.

From Kansas City, Mo., the Frisco has a main line south 102 miles to Edward, Kan., from which junction one line extends southeast through Springfield, Mo., and Memphis, Tenn., to Birmingham, Ala., and Pensacola, Fla. A second line from Edward extends southeast 84 miles to Afton, Okla., where it connects with the main line from St. Louis, Mo., through Springfield and Afton to Tulsa, Okla., Oklahoma City, and on to Texas. Thus the 84-mile link between Edward and Afton handles the traffic between Kansas City and Tulsa and beyond. The schedule includes two through passenger trains and two through freight trains each direction daily.

The passenger trains are the modern streamlined type hauled by Diesel locomotives. The "Firefly" is a fast day train, in both directions between Kansas City and Tulsa; the "Oklahoman" is a night train in both directions between the same points. These trains are operated at speeds up to 70 m.p.h. The through freight trains also are operated with Diesel locomotives. D-42 class locomotives will handle 3,000 gross tons either direction over the entire subdivision, at speeds up to 50 m.p.h.

A local freight is operated in each direction daily except Sunday, making 10 trains daily over the entire territory. A branch line extends west from Girard and one passenger train and one freight to and from this branch are operated each way daily between Girard and Edward, 8.3 miles. Another branch extends west from Cherokee, and one freight train daily in each direction, to and from this branch, uses the main line between Edward and Cherokee. As a connecting link in another Frisco route, the 11.2 miles between Columbus South Wye and Baxter Springs are used by one mail train each way daily.

The 84-mile line between Edward and Afton traverses an undulating prairie country with numerous short rolling grades, but no long steep grades. In this territory train movements were previously authorized by timetable and train orders, with no automatic block signaling in service. As a means of improving the safety of train operations, consideration had been given to installing conventional automatic block signaling. The Frisco management is well informed concerning not only the protection, but also the benefits in expediting trains by installing centralized traffic control on lines which handle heavier traffic, because this road already had C.T.C. in such service totaling about 295 miles. Therefore, rather than install conventional automatic block on the 84 miles between Edward and Afton, with all the sidings in place as they were, the Frisco developed a plan to adapt C.T.C. to this relatively light traffic line by installing dispatcher-controlled signals and power switch ma-

chines at only six of the previous 16 sidings, all of which no doubt would have been equipped with head-block signals if conventional automatic block had been installed.

Six of Sixteen Sidings Equipped

In deciding which sidings were to be equipped with dispatcher-controlled signals and power switch machines, preference was given to sidings spaced approximately equal distances, and, other factors being equal, to sidings located where the grades were favorable for trains to start; and to avoid sidings in towns where trains would block street crossings. The final decision was to equip six sidings—Farlington, Beulah, Scammon, Neutral, Quapaw and Narcissa. These have capacities ranging from 137 to 157 cars. The distance from the south switch of one siding to the north switch of the next, in order, is Edwards Junction to Farlington, 14.5 miles, Farlington to Beulah, 10.9 miles, Beulah to Scammon, 9.8 miles, Scammon to Neutral, 11.7 miles, Neutral to Quapaw, 9.8 miles, Quapaw to Narcissa, 12.5 miles, and Narcissa to Afton, 6.2 miles. This makes an average spacing of 10.6 miles.

Three sidings, at Filler, Turck, and Ontario, were retired. The sidings were left in place in sizable towns, such as Cherokee, Columbus, Baxter Springs and Miami, for use by local freights. On account of the numerous street crossings and other local conditions in these towns, train speeds are limited to a maximum of 20 m.p.h., so no electric locks were installed on the main-track hand-throw switches in town limits.

A few of the sidings in open country—such as at Anna—are not needed for through trains, but were left in place with hand-throw switches; they can be used by the local freights, or under special requirements by through trains. These sidings have electric locks on the hand-throw switches. If the dispatcher finds it necessary for a northbound train, for example, to take siding at Anna, he sends out a control that causes the letter "S" to be displayed in a "take-siding" indicator on a regular signal mast about 6 miles in approach to the south switch at Anna. Normally this indicator is dark. When energized by the dispatcher, the letter "S," in white, is outlined in black on a 12-in. ground glass cover. When an engineman encounters such an aspect on the indicator in approach to Anna, the train is stopped short of the switch; the electric lock is released; the brakeman throws the switch and the train enters, after which the switch is closed by the rear brakeman. When the train is to depart from this siding, under instructions, the electric lock is released, and the brakeman throws the switch, and if the track is unoccupied, the dwarf signal at the clearance point on the siding then displays proceed.

Hold-Out Signals

At five towns—Cherokee, Columbus, Miami, Baxter Springs and Quapaw—the local trains do considerable switching. Each of these towns is included in one of the long overall C.T.C. blocks between power-equipped sidings. For example, Cherokee, with 13 hand-throw main track switches leading to industry spurs, is about midway in the 10 miles between power sidings at Beulah and Scammon. To permit switching moves on the main track in Cherokee—without tying up the entire section between Beulah and Scammon—a double signal location of C.T.C-controlled hold-out signals were installed at each end of Cherokee. For example, a southbound through train can be authorized to leave Beulah and proceed toward Cherokee while switching is under way in Cherokee. In the meantime, when the switching crew reports in the clear, the dispatcher can clear the hold-out signal for the through train to proceed without stopping. Similar hold-out signals, controlled by the dispatcher, are located also at both ends of Columbus, Miami, Baxter Springs, and Quapaw. For following through trains, these hold-out signals serve also as intermediate automatic block signals.

Above—A power switch machine and signal are installed at the end of each C.T.C. siding. Below—This special signal directs a train to enter the next hand-throw siding

An intermediate signal which serves also as a distant signal is located about 2 miles in approach to each station-entering signal at each power siding. As a general rule, there is a signal for the other direction at each distant signal, thus making a double location. Therefore, figured as a whole, intermediate signals are spaced 2 miles to 3 miles, as required to divide up the distances between fixed locations.

This C.T.C. project was planned and installed by St. Louis-San Francisco forces, under the jurisdiction of R. W. Troth, superintendent of communications and signals, the principal items of equipment being furnished by the Union Switch & Signal Co.

Representatives of 13 of the 14 railroads which won this year's Harriman awards for the best safety records in their respective groups holding certificates attesting to receipt of the awards. Left to right in the first row are: Paul W. Johnston, president, Erie; R. H. Smith, president, Norfolk & Western; Eugene S. Williams, president, Western Maryland; Ward Wire, vice-president, Colorado & Wyoming; Harry Babcock, general manager and traffic manager, Pennsylvania-Reading Seashore Lines; and R. C. Lauten, assistant vice-president, Gulf, Mobile & Ohio. In the same order in the second row are: Arthur V. Rohweder, superintendent of safety and welfare, Duluth, Missabe & Iron Range; John E. Tilford, president, Louisville & Nashville; P. J. Lynch, vice-president, operations, Union Pacific; James G. Lyne, editor of *Railway Age* and chairman of the award committee; G. W. Kelly, general manager, Texas Mexican; H. J. Wurtele, vice-president, operations, Birmingham Southern; C. A. Pinkerton, Jr., president and general manager, Detroit & Mackinac; and G. W. Elste, superintendent of safety, Baltimore & Ohio Chicago Terminal

Harriman Awards Presented For 1949 Railroad Safety Records

More than $17,000,000,000 have been spent in the past 30 years on the improvement of railroad plant and equipment," Col. Robert S. Henry, vice-president—public relations, of the Association of American Railroads, said in New York on September 20 at the Harriman Award dinner of the American Museum of Safety. "There is hardly a dollar of all those 17 billions," Col. Henry added, "which has not, in one way or another, contributed to safer operation. Take, for example, so undramatic a thing as the steel rail on which the trains run. Prolonged research carried on jointly by the railroads and the steel companies developed the controlled method of cooling rail. In the past 10 years 13,000,000 tons of controlled-cooled rail have been laid and such rail is less than one-fourth as liable to breakage as the rail which it replaced. What is true of rail is true in greater or less degree of every other part of the railroad —for the research which is carried on, and the dollars which are spent, for greater efficiency and economy and likewise research for, and expenditures for, greater safety."

Presiding at the dinner, which was held at the Hotel Ambassador, was Alvin Barber, a trustee of the American Museum of Safety and a member of the museum's committee of award. Mr. Barber substituted at the last moment for Wallace J. Falvey, president of the museum, who was ill and unable to attend the ceremonies. All awards were presented by James G. Lyne, editor of *Railway Age* and chairman of the committee of award.

Three railroads which led their respective classes in safety records in 1949 received gold medals at the dinner. In addition, certificates of commendation for outstanding performance in railroad safety were presented to nine other railroads and, for the first time, to two switching and terminal companies.

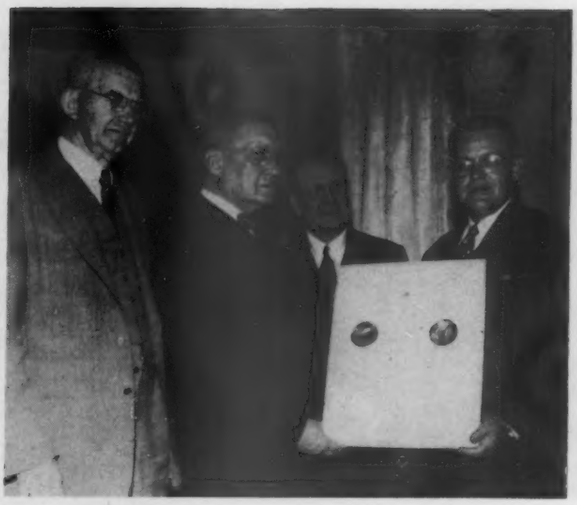
For the best safety record last year among class A railroads (those operating more than 10,000,000 locomotive-miles annually), a gold medal was awarded to the Norfolk & Western. R. H. Smith, president of the road, accepted the medal. The Western Maryland received a gold medal for the best record among class B railroads (those operating less than 10,000,000 but more than 1,000,000 locomotive-miles each year). It was accepted by Eugene S. Williams, that road's president. The gold medal for the best record among class C railroads (those operating less than 1,000,000 locomotive-miles a year), was given to the Colorado & Wyoming, whose vice-president, Ward Wire, accepted it.

The certificates of commendation went to the following companies: Eastern district—Erie (class A), accepted by P. W. Johnston, president; Pennsylvania-Reading Seashore Lines (class B), accepted by Harry Babcock, gen-

Mr. Smith (right), president of the Norfolk & Western, accepting that road's gold medal from Mr. Lyne

Mr. Johnston (right), Erie president, accepts from Mr. Lyne the certificate of commendation won by that road

eral manager; Detroit & Mackinac (class C), accepted by Charles A. Pinkerton, president; Western district—Union Pacific (class A), accepted by P. J. Lynch, vice-president, operations; Duluth, Missabe & Iron Range (class B), accepted by A. V. Rohweder, superintendent of safety and welfare; Texas Mexican (class C), accepted by G. W. Kelly, general manager; Southern district—Louisville & Nashville (class A), accepted by John E. Tilford, president; Gulf, Mobile & Ohio (class B), accepted by R. C. Lauten, assistant vice-president; and the Tennessee



In the usual order: Alvin B. Barber, trustee of the American Museum of Safety and a member of the museum's committee of award; Mr. Wire accepting the Colorado & Wyoming's gold medal; W. J. Patterson, member, Interstate Commerce Commission, who was a guest at the ceremonies; and Mr. Lyne

Mr. Patterson (left), and Col. Barber (right), look on as Mr. Lyne (second from left), presents the gold medal won by the Western Maryland to Eugene S. Williams, the road's president

Col. John Stilwell (left), member, board of trustees, National Safety Council, watches as Julien H. Harvey (right), chairman of the Memorial Award committee, presents the Arthur Williams Memorial Medal to Mr. Rohweder

Left to right: F. B. Lewis, Union Pacific superintendent of safety; Mr. Lyne; Commissioner Patterson; and P. J. Lynch, vice-president, operations, U. P.

Mr. Lyne (left), presenting a certificate to Mr. Elste (right), superintendent of safety, Baltimore & Ohio Chicago Terminal, as W. C. Baker, vice-president, operations and maintenance, looks on

Mr. Tilford (left), Louisville & Nashville president, receives from Mr. Lyne (right), the certificate awarded to the L. & N. Commissioner Patterson is in the center

Central (class C). Unfortunately, it was announced, it was impossible for a representative of the last-named railroad to attend the ceremonies.

Switching and terminal companies receiving the first awards ever made in those categories were: Baltimore & Ohio Chicago Terminal (Group ST-1), accepted by George E. Elste, Jr., superintendent of safety; and the Birmingham Southern (Group ST-2), accepted by H. J. Wurtele, vice-president.

Mr. Rohweder, of the D. M. & I. R., also received this year's Arthur Williams Memorial Medal. The presentation was made by Julien H. Harvey, chairman of the Arthur Williams award committee.

"Fewer persons lost their lives in railroad accidents in 1949 than in any of the 62 years during which the Interstate Commerce Commission has kept records," Mr. Falvey said in a prepared address read by Mr. Barber.

"Industrial safety is more than a matter of rules, or a matter of machines," Col. Henry said in his remarks. "It is, as well, a matter of the minds of men, for the safest rules and the safest equipment do not, in and of themselves, make a safe man. The facts are commonplace enough now, but when the pioneers of industrial safety started their work some 40 years ago such a thought would have been greeted by many with scepticism. Every man, it would have been said, knows that to get hurt will cost him time and money and suffering, so why go to the trouble to tell him what he ought to know anyhow? The employer owed the duty of providing a place to work as safe as the necessities of the job permitted, but beyond that it was each man's own business not to get hurt. So the pioneers of the safety movement fought their battle on two fronts—safe conditions, yes, but safe thinking as well, to be achieved through constant iteration and reiteration of simple principles which they might have assumed every one knew already.

"Pioneer among the pioneers in that endeavor were the safety officers of the American railroads," Col. Henry emphasized. "The pioneer railroad safety man, coming when he did in the early years of this century, helped to start a change in public attitude in the realization that by taking thought in advance something could be done to achieve greater safety. The result of their taking thought, and bringing others to take thought, is the railroad safety record—one of the outstanding achievements of an industry with a great record of progress and achievement.

"Partly, this record is due to engineering in the development of safe plant, equipment and devices. Partly, it is due to education in safe rules and safe practices. Partly, it is due to the sort of safety evangelism which has created in the minds of railroad men a spirit of safety which avoids taking unnecessary risks but which is ready to meet emergency when it comes. Thus recently, when an unattended locomotive drifted out its berth and started down through the crowded tracks of the Washington Union Station, one alert railroad man who saw what had happened used the terminal's communication system to let the next towerman know, and the next towerman, in a marvel of quick thinking and split-second timing, used modern methods of control of switches and signals to turn the runaway engine into track occupied by an empty train and away from a track on which it would inevitably have met head-on an approaching train filled with passengers. The incident is illustrative of the fact that in an emergency—and there always will be emergencies—safety is in the hands of men. It is illustrative, too, of the fact that while there is no such thing as perfect safety, a high degree of safety is built into railroads."

Roadmasters' Convention Weighs New Methods and Responsibilities

In their large annual meeting at Chicago these officers acquired a broader understanding of the burdens that would fall on them in the event of full-scale war

Desirable revisions in track maintenance organizations, better methods of laying rail, modern construction and maintenance of railway grade crossings and improved methods for surfacing and raising track — these were some of the matters discussed during the three-day annual meeting at Chicago, September 18-20, of maintenance-of-way supervisory officers. These subjects were among those dealt with in committee-report form and, in most cases, also given further extended consideration by members speaking from the floor.

This convention of the Roadmasters' and Maintenance of Way Association was held at the Stevens Hotel, and, continuing a practice started in 1946, was concurrent with the annual gathering of the American Railway Bridge & Building Association. The two organizations convened in a joint session on Monday morning, September 18, and again on Tuesday afternoon, when they heard three addresses on subjects of mutual interest. Separate sessions were held by the two groups in the intervening period.

Attendance at New Peak

Particularly significant of the times was the record attendance at these conventions. During the three-day period 897 railway men and 262 supply men registered at the meetings, the aggregate attendance being 1,159 members and guests. This compares with a registration of 808 members and guests in 1949, and 900 members and guests at the 1948 meeting, the latter constituting the previous high record. Doubtless contributing in an important measure to the large attendance was the record display of manufacturers' products on view at the Coliseum during the meetings. This exhibit was sponsored jointly by the Track Supply Association and the Bridge & Building Supply Men's Association. Products of 122 manufacturers were displayed in 250 booths. The two supply associations also were hosts to the members of the two railroad groups and their families at a banquet on Tuesday evening, which was attended by 1,596 persons.

The proceedings of the Roadmasters' sessions are reviewed in this article, along with a brief account of events transpiring during the joint sessions. An account of the separate activities of the Bridge & Building Association will appear in next week's issue.

Presiding jointly over the combined opening session on Monday morning were A. G. Reese, district maintenance engineer of the Chicago, Burlington & Quincy, Galesburg, Ill., the president of the Roadmasters' group, and W. F. Martens, general foreman, bridges and buildings, of the Atchison, Topeka & Santa Fe, San Bernardino, Cal., the president of the Bridge & Building Association. All separate sessions of the Roadmasters' meetings were directed by Mr. Reese, assisted by C. Halverson, general roadmaster of the Great Northern, Willmar, Minn., and first vice-president of the association.

At the opening session the principal address was by J. H. Aydelott, vice-president, Operations and Maintenance department, Association of American Railroads. Words of greeting were also heard during this session from H. S. Loeffler, assistant chief engineer of the Great Northern, St. Paul, Minn., and president of the American Railway Engineering Association; from Kenneth Cavins, president of the Track Supply Association; from G. R. Betts, president of the Bridge & Building Supply Men's Association; and from Lewis Thomas, secretary of the Track Supply Association and director of exhibits for both of the supply groups.

War Problems Concern President

The situation confronting track supervisory officers as a result of the unsettled international situation was the principal theme of the address made by Mr. Reese at the Roadmasters' opening session. "During the major portion of the past decade," he said, "we have experienced federal control of men and materials, and reinstallation of these controls can be expected. The term of these new controls is indefinite but we can be assured that they will encompass the period of conflict, and for a further time into the future."

Pointing to the extensive use of heavier rail and fastenings, ties "seasoned and treated in the latest and best methods," and the surfacing of this improved track structure with more permanent ballast compacted by modern equipment, Mr. Reese declared that these things "give assurance that we will be able successfully to transport the materials of this war, in addition to the commodities necessary for the very existence of the 150,000,000 people in these United States, and also the millions of inhabitants of other nations over whom we have assumed the position and obligation of a guardian angel."

Discussing the role of the roadmasters in the situation now developing, Mr. Reese stated that present speeds and traffic, swollen by a large anticipated tonnage of war materials, will impose a burden on the track structure that will necessitate increased maintenance. Consequently, he said, the perpetuation and further improvement of the present standards of maintenance offer a challenge to the maintenance officer of today and tomorrow. "We may reasonably expect the trend toward

A. G. Reese, district maintenance engineer of the Chicago, Burlington & Quincy, Galesburg, Ill., and president of the Roadmasters' Association, presided over the sessions of that group

heavier and more permanent parts of the track structure to continue," he declared, "and to extract the maximum from these materials will test the ability of the roadmasters."

Six Committee Reports

The principal business transacted during the separate sessions of the Roadmasters' meetings consisted of the presentation and consideration of six committee reports on the following subjects: Power Tamping Equipment and Its Effectiveness; Improved Methods Used in Surfacing and Raising Tracks to Grade and Line Stakes; Methods of Organizing, Equipping and Operating Rail-Renewal Forces; Desirable Revision in the Organization of Track Maintenance; Construction and Maintenance of Highway Grade Crossings; and Various Methods of Ballast Cleaning and Renewal. In addition to the committee reports the Roadmasters' program included an address by H. W. Kellogg, division engineer of the Chesapeake & Ohio, Detroit, Mich., on Reducing Unproductive or Travel Time of Maintenance-of-Way Forces.

The first speaker on the program of the joint session on Tuesday afternoon was J. P. Newell, general manager, Pennsylvania Western region, Chicago, whose subject was The Role of Supervision in the Present World Crisis. He was followed on the program by L. W. Horning, vice-president, personnel and public relations, of the New York Central system, who spoke on Personnel Relations as an aid to Greater Efficiency. Following Mr. Horning came L. B. Harper, personnel assistant, Illinois Central, Chicago, whose subject was The Supervisor's Approach to the Safety Problem.

Following the close of the convention on Wednesday noon approximately 160 of those in attendance participated in a conducted tour of the recently remodeled frog and switch shop at Chicago Heights of the Ramapo Ajax Division of American Brake Shoe Company. This group also saw depth-hardening operations in the company's manganese foundry at that point.

In the election of officers at the closing session on Wednesday, Mr. Halverson was advanced to president; A. H. Whisler, assistant engineer of the Pennsylvania, Philadelphia, Pa., was advanced from second vice-president to first vice-president; R. H. Gilkey, division engineer of the Central of Georgia, Savannah, Ga., was advanced from director to second vice-president; and E. E. Crowley, roadmaster of the Delaware & Hudson, Albany, N. Y., was re-elected treasurer. Directors elected were J. E. Griffith, assistant chief engineer, maintenance of way and structures, of the Southern, Knoxville, Tenn.; and Paul Settle, assistant division engineer of the Pennsylvania, New York.

Abstracts appear below of all the committee reports and of the principal addresses.

WORKING UNDER HANDICAPS

"The deep interest which I have always had in the maintenance-of-way department stems from an appreciation of the many handicaps under which your work is performed," said Mr. Aydelott in his address before the opening joint session on Monday. Track and bridge work, he went on, must, except in a few instances, be carried on under traffic and many difficulties result from this situation. Because of the shortening of train schedules, increased traffic on many single-track lines and higher standards of maintenance, these problems, he pointed out, will probably grow rather than diminish.

Mr. Aydelott discussed various measures which might provide relief in this situation, including stabilization of roadbed, greater use of off-track equipment, increased mechanization, higher standards for materials, improved methods of transporting men to and from work, and high standards of supervision.

The expanded research facilities of the A.A.R., which is investigating the behavior of basic materials used in track and bridges, were then discussed by Mr. Aydelott. "Most of you," he said, "in your respective territories have installations of a test nature, and too much stress cannot be laid upon these installations, since they may prove to be of extreme value not only to your company but to the entire railroad industry."

In closing Mr. Aydelott referred to the serious car shortage which the sharp upturn in business has created. "To overcome the shortage," he said, "a great many things will have to be done to assure greater car utilization, and among these is the prompt release of cars in which you receive your materials."

REDUCING UNPRODUCTIVE TIME

Competition with other forms of transportation, the availability of many efficient maintenance machines and the 40-hour week have challenged the maintenance officer to give serious study to the problem of reducing unproductive time as much as possible, said Mr. Kellogg in his address. Discussing first the time consumed by track forces in traveling to and from work, Mr. Kellogg said much of it may be eliminated, where adequate highway facilities exist, by transporting men by truck. While trucks cost more to buy and operate than track motor cars, he went on, they may eliminate at least an hour a day of unproductive time. For a section foreman and five men, he said, this means a saving in the neighborhood of $1,513 per year per section.

Turning then to territories where motor cars must still remain the principal means of transporting men, Mr. Kellogg said that many hours of unproductive work due to train delays could be eliminated by the cooperation of the operating department in providing better train information and in giving all possible assistance to get motor cars over the road safely and with the least possible delay, and by providing section and gang foreman with portable telephones. Getting the most work possible from large extra gangs, said Mr. Kellogg, requires careful advance planning and cooperation of the operating department.

SUPERVISION AND THE WORLD CRISIS

In Mr. Newell's address on The Role of Supervision in the Present World Crisis, he first emphasized the importance of proper supervision, and of improving the quality of supervision to obtain better performance from the maintenance-of-way forces. Good supervision is necessary, he said, to assure that maintenance allotments are spent properly. From the supervisory officers in this department come the ideas and suggestions for assuring forward progress of maintenance-of-way practices. Such officers, he said, because of the location of many of them in outlying communities, are in an ideal position to develop local respect and appreciation for the railroads, and they are also the roads' first line of supervisory defense in wrecks, floods and other emergencies.

Speaking of the eagerness of management to develop better supervisors Mr. Newell recommended that his listeners read Elbert Hubbard's "Message to Garcia," and then listed six questions which he said "are basic and worthy of your attention." These are (1) Are you happy? (2) Can you distinguish between essentials and nonessentials? (3) Are you predictable under pressure? (4) Do you have personal integrity? (5) Do you accept your responsibilities? and (6) Are you loyal?

Mr. Newell went on to develop the thought that the things he had been discussing constitute a prerequisite for the role that supervision must take in the present world crisis. He then discussed some of the detailed problems that would be encountered by mainteance-of-way departments in the event of another world conflict, such as extremely heavy traffic, shortages of materials, and lack of manpower. However, he told his listeners that "you should know all the answers—both from your review of your experience, and from careful analysis of mistakes and errors in past experience."

Mr. Newell then mentioned "two new and very serious problems" that may face the railroads if war should develop, adding that these two problems will place a "tremendous responsibility" on the shoulders of supervision. They are, he said, (1) Possible sabotage; and (2) the possibility of explosive bomb and atomic bomb attacks, in view of the great developments in aircraft in the past five years.

PERSONNEL RELATIONS AND EFFICIENCY

"No program for all-out efficiency, regardless of how many machines it may provide, can be thoroughly successful unless it takes account of the men who are still the basic component in maintenance-of-way work," said Mr. Horning in his address before the joint session on Tuesday. "This," he went on, "is where personnel relations enter the picture. The pursuit of a personnel relations program involves the forming and carrying out of policies conducive to good feeling and, therefore, to good work."

First, Mr. Horning declared, railroad officers and supervisors are interested in seeing that the men working for them do a good job, "and our prime task boils down to one of helping men do good work." To do this, he said, one must consider the things that a human being craves simply because he is a human being—such as the desire for personal dignity, a need to enjoy a sense of accomplishment in his work, and the need of feeling that what he does is appreciated. Whether or not a job fills these three needs, he went on, depends largely on

The principal address at the joint opening session of the meetings of the Roadmasters' and Bridge and Building Associations was made by J. H. Aydelott, vice-president, Operations and Maintenance department, Association of American Railroads

J. P. Newell, general manager, Pennsylvania, Chicago, addressing a joint session, emphasized the desirability of improving the quality of supervision to obtain better performance from the maintenance-of-way forces

the attitude of the company, as expressed by the various levels of management and supervision, toward its employees.

Mr. Horning then explained how the satisfaction of workers with their jobs can be brought about. Supervisors and officers, he said, should respect a worker as an individual; believe in their men; create respect by competence and leadership; explain frankly the reasons for policies; let employees know what's going on; offer commendation for a job well done; base all promotions strictly on merit; broaden the worker's field of activity if he is doing well at the job assigned him; delegate authority and use men to capacity; and listen to suggestions, questions and "gripes."

In conclusion Mr. Horning discussed how management is backing up the maintenance man's efforts toward greater efficiency through its endeavor to iron out some of the peaks and troughs of maintenance-of-way employment so that steady work can be offered to more men, through its encouragement of modernized techniques, and through its increasing interest in training men.

THE SUPERVISOR AND SAFETY

In discussing, before the joint session on Tuesday afternoon, the supervisor's responsibility in the prevention of accidents, Mr. Harper said that before supervisors can expect to put over a safety program they must first of all be "sold" on safety themselves.

Mr. Harper elaborated upon the role of supervisors as teachers, saying that no one can have the same prestige with workmen, or the same power to educate men in safety, as the man to whom the workers report. Therefore, the competent supervisor must have the confidence of his men and be so interested in them that he will have a personal desire to train them to be the best possible workmen. "It takes a man with real executive ability to develop a safe, efficient and successful workman out of a potential failure," he declared.

Too many supervisors, said Mr. Harper, merely tell their men that rules must be observed and that certain practices must be performed rather than explain why it is to the workman's benefit to operate in a safe way. "Selling safety," he went on, "is just like selling anything else. You will have to persuade the prospective customer that you have something that will benefit him, and that he will be better off after he has accepted what you have to offer."

Mr. Harper disposed of the various excuses offered by some supervisors in defense of poor accident records. To the man who complains that he can't watch his men continually, Mr. Harper said, "no one expects you to. The main thing is—what do you do about it when you see a safety violation?" In commenting on the supervisor who says he doesn't have time to teach safety, Mr. Harper said "you don't have time to do anything else but teach safety. If we fail in safe operation, we have failed in everything else." For the benefit of the supervisor who complains that he gets tired of telling the same thing every day, Mr. Harper drew an analogy between the advertising business and safety work. "Advertising people," he said, "know that the more times a product is talked about the better it will sell."

*Committee Reports**

Six technical committee reports were presented on timely subjects of interest to track maintenance officers. These reports are abstracted below.

SURFACING TRACK TO STAKES

The responsibility for setting grade and line stakes rests with the engineering department, according to the Committee on Improved Methods Used in Surfacing and Raising Tracks to Grade and Line Stakes, headed as chairman by L. W. Howard, assistant valuation engineer of the Illinois Central. It is not recommended that the

*These reports will be published in full in the October issue of Railway Engineering and Maintenance.

Addressing a joint session, L. W. Horning, vice-president, personnel and public relations of the New York Central system, said that the principal task of supervisory officers is essentially one of helping their men to do good work

The Supervisor's Approach to the Safety Problem was the subject of an address by L. B. Harper, personnel assistant, Illinois Central, who spoke before a joint session

roadmaster or supervisor do this work, it said, because it takes too much time from his more important duties in supervising the actual surfacing work, from which the real economies result.

After briefly discussing recommended methods of setting grade stakes and the realinement of curves by the stringline method, the committee turned its attention to the subject of making tie renewals. This work, the committee said, is most economically done by the surfacing gang when the track structure is raised on jacks. The committee then described two different ways of handling tie-renewal work in connection with on-track surfacing machines.

The committee next discussed the application of and the organizations for three general types of machines available for surfacing: (1) On-track machines with power controlled tamping mechanisms; (2) individual hand tools operated by air or electricity from a separate power plant; and (3) unit tampers. The committee gave examples of large savings which have been realized through the use of large on-track tamping machines. It described the operation of a machine on an eastern road which has produced savings of $800 per mile and of a different type of machine on a midwestern road which has saved $611 per mile compared with previous methods of surfacing used.

BALLAST CLEANING

Maintenance men have found that it is difficult and expensive to maintain track to the standards required today if the ballast is fouled. Railroad management, therefore, must realize the labor and material economies that are derived from clean ballast, and must recognize what has been accomplished by modern ballast-cleaning equipment toward reducing the cost of maintaining clean ballast. These are some of the conclusions reached by the Committee on Various Methods of Ballast Cleaning and Renewal, headed as chaiman by W. H. Haggerty, general track supervisor of the New York, New Haven & Hartford, New Haven, Conn.

Among the phases of this subject discussed by the committee are: When to clean ballast, depth of cleaning, cleaning crib ballast, disposal of dirt, and distributing and conserving ballast. The committee also described in detail the equipment now available for ballast cleaning, including a machine that digs its own way through the ballast, screening and returning the clean ballast from the space from which it was dug; a big-production on-track machine available to the railroads on a contract basis; another heavy-duty machine which is reported to be capable of cleaning ballast at a rate of a mile an hour; a team of three machines for removal or reconditioning ballast; a cribbing machine; and a self-contained on-track ballast cleaner designed to clean ballast at a rate as high as 1,000 ft. of track per hour.

POWER TAMPING EQUIPMENT

In the past 25 years railroads have reduced track labor by 45 per cent, and if the savings were classified, those produced by power tamping would lead all the rest, according to the committee on Power Tamping Equipment and Its Effectiveness. J. R. Kanan, assistant engineer of track of the Colorado & Southern, Denver, Colo., was chairman of this committee. "Power tamping has advanced very rapidly in the last three years," the committee said, "because of the design of larger machines for use by larger gangs in general ballasting operations." The effectiveness of such equipment, the committee went on, is due to the uniform tamping it can produce, which results in lower maintenance costs and a better overall surfacing job.

In discussing hand-operated power tampers, the committee said that one man with one of these units in spotting work will ordinarily accomplish as much as three men with ordinary hand tools, and the results obtained are more effective and more lasting. It said that use of this equipment has permitted some roads to increase section lengths and to reduce the number of laborers per section.

HIGHWAY CROSSINGS

"With the mounting number of vehicles using our highway crossings today and with special emphasis on the heavily-loaded truck traffic, the subject—Highway Crossing Construction and Maintenance—is a very important one to every railroad," reported a committee headed as chairman by H. M. Overpeck, roadmaster of the Elgin, Joliet & Eastern, Joliet, Ill. Reviewing a report on this subject presented at the 1934 convention, the committee stated that several types of crossings—the monolithic concrete, the metal (rolled or cast) and the rail type—considered adequate at that time are no longer satisfactory, except for light traffic.

The committee next discussed recommended types of crossings—the precast concrete type for locations where

ONE OF A SERIES of colored posters, 9 in. by 12 in. in size, which are being prepared and distributed by the Brotherhood of Railway Clerks for display at points where its members are employed. Other posters in the series deal with other types of railroad clerical work involving contacts with the public in person or by telephone

TRACK LAYING on the Southern at Knoxville, Tenn., with a Caterpillar Diesel D7 tractor equipped with a Hyster Hystaway

frost action is not prevalent, the treated plank crossing, which is still favored where traffic is not unusually heavy, and the asphaltic or bituminous crossing, which, according to the committee, has also proved very effective where traffic is not unusually heavy. The committee then turned to a crossing for heavy traffic—the prefabricated black-gum type. A number of these, said the committee, have been in severe service for a long time and have required little or no maintenance.

The committee concluded its report with a general discussion of crossings, including such subjects as drainage, renewal of ballast and rail in crossings, and the maintenance of suitable highway approaches.

RAIL-RENEWAL FORCES

The committee on Methods of Organizing, Equipping and Operating Rail-Renewal Forces, headed as chairman by P. R. Matthews, assistant division engineer of the Chesapeake & Ohio, restricted its report to cover fully-equipped system or regional forces only, and to the installation of 39-ft. rail on new tie plates.

In organizing a rail-renewal force, the committee said, careful consideration should be given to the size of the rail program, the equipment to be used, climatic conditions, and traffic conditions. The size of the gang, it said, depends on the number of power units to be operated, and usually requires 90 to 150 laborers so balanced that all the various individual operations are completed at about the same speed. Too much emphasis, the committee went on, cannot be placed on supervision, and specific attention should be given to selecting a capable man to head the rail-renewal force. To eliminate the need of reorganizing a new force at the beginning of each season, the force should be kept intact or organized so it can be broken into small units for other work in the off season, the committee declared.

Equipping rail-renewal forces was next discussed. Full advantage should be taken of power equipment, the report said, and maintenance officers should be constantly on the alert for new machines. Also, it stated, it is sometimes possible to find other uses for existing equipment than those for which it is normally used. Discussing suitable living quarters for the men, the committee said that the camp-car equipment should be the best obtainable.

Turning then to the problem of operating rail-renewal forces, the committee said, "this is not much of a problem in multiple-track territory where the force is permitted to work on dead track its whole tour of duty. This is the ideal condition under which to lay rail." For heavy-traffic single-track lines, the committee recommended the employment of small forces with a minimum of equipment. The committee went on to say that regardless of the conditions under which rail renewals are made the cooperation of the operating department is of the utmost importance. To make this possible, a trainmaster should be assigned to and work with the rail-renewal forces, it said.

REORGANIZATION OF TRACK WORK

Changed working agreements, vacation schedules, and the shorter work week, together with higher material and labor costs, have created a need for gang reorganization, according to the committee on Desirable Revision in the Organization of Track Maintenance. L. C. Blanchard, roadmaster of the Chicago, Milwaukee, St. Paul & Pacific, Minneapolis, Minn., was chairman of this committee. The report in general was based on replies to a questionnaire from the members of the committee.

The committee reported a considerable difference of opinion as to the future status of the section gang. It concluded, however, that "the section crew will continue, as in the past, to be the backbone of track maintenance, but in a more modified form." Most roads, the committee said, are giving consideration to the use of small, fully-mechanized truck-transported floating gangs to supplement section crews, and to eliminate the need for doubling up section gangs for heavy maintenance work.

The committee reported a wide difference of opinion also on the question of patrolling and inspecting track. Some roads favor a daily-except-Sunday patrol by the section forces; others have the track patrolled by one man on a light inspection car, who covers from 30 to 100 miles each day. The overall trend, however, said the committee, is in the direction of longer sections with smaller crews in which the foreman and one laborer would make a careful track inspection on Monday and again on Friday, correcting any unsatisfactory condition.

The committee reported that in some territories regular section crews could be replaced by gangs using trucks on roads paralleling the tracks. But on the whole, it said, this was not desirable because most of the advantages are offset by the disadvantages. In the remainder of the report the committee made recommendations for carrying out the work of renewing angle bars, tightening bolts, building up rail joints, frogs, switches, etc., killing weeds, making repairs to fences, and maintaining motor cars and other power equipment. In conclusion the committee stated that "it is unfortunate that desirable revision in the organization of track maintenance cannot be set up in a pat formula. The recommendations included in this study are based on average conditions and can be of benefit to the maintenance officer only as he considers them in the light of his own problems."

GENERAL NEWS

Toledo Goes *Wild* Over New Station

Movie queens, boy scouts, brass bands and world's longest coal train join jubilant Toledo citizens as week-long celebration opens station

With greater "hoop-la" than greeted any event except V-J day, the city of Toledo, Ohio, reveled in a full week of civic jubilation as the $5,000,000 Central Union Terminal officially displaced 64-year-old Union Station on September 17. (See page 50 of last week's *Railway Age*.) Designed and built by the New York Central, and used also by passenger trains of the Baltimore & Ohio, the Wabash and the Chesapeake & Ohio, the new four-story terminal and the ceremonies attending its opening attracted visitors from a wide three-state area. From as far as Marion, Ohio, and Sandusky, and from cities of northern Indiana and southern Michigan they came in droves to scrutinize the terminal and partake in the celebration.

Civic agitation for a new station has long been a part of Toledo life. During the years of World War II, rail travelers passing through Toledo were greeted by a large billboard which read "Don't judge Toledo by its Union Station." The sign was erected by a prominent Toledo business man, Kenton D. Keilholtz, who, on the second day of the new terminal's "Dedication Week" happily unveiled a new billboard which read "Judge Toledo by its Union Station."

"No Ordinary Celebration"

Dedication Week plunged the city into a crowded program of dances, parades, stage shows, band concerts, dinners, luncheons, receptions and teas. The railroads presented an array of new locomotives and passenger and freight cars for inspection. "Commuter" trains brought in Toledo's neighboring population in such numbers that over 70,000 visitors passed through the new terminal on a single day. A mammoth parade featured a "lighter-than-air" train nearly 450 ft. long, complete with locomotive, tender and passenger cars in the form of huge balloons which bobbed over the heads of the marchers. Past the official reviewing stand at Lafayette and Summit streets also marched 37 bands and more than 50 marching organizations, including units of the Ohio National Guard, veterans' groups, floats, fraternal organizations and boy scouts. Army, Navy, Air Force and marine recruiting stations supplied honor guards for the colors. The boy scouts marched with a "Mile of Flags" and distinguished visitors, including a host of railroad presidents, were escorted by 20 eagle scouts. A working railroad

Some of Toledo's jubilant citizens participating in the ceremonies

"A POEM IN CARVED OAK, PLATE GLASS AND POLISHED BRASS"—in 1886, that is. The old Union Station's inability to cope with traffic of 20th century Toledo made it a butt of countless jokes during its autumn years. Officially closed on the first day of Toledo's week-long celebration, its passing will be little mourned

TOLEDO'S PRIDE—Functional simplicity etched in gray brick and limestone and set off by great panels of glass block and picture windows characterize the new Central Union Terminal. The $5,000,000 structure was designed by New York Central System architect Robert Lee Corsbie

man — Raymond E. Luschen, a member of the Order of Railway Conductors — presided over the parade as honorary grand marshal and as a representative for all the railroad brotherhoods. The entertainment world was represented by stage and screen stars Danny Thomas, Marta Toren, William Holden, George Murphy and many others.

Caught by Surprise

A 29-mi. train tour of Toledo's railroad facilities was scheduled for each day of Dedication Week. Committeemen had planned to operate a six-car train on the two-hour tour, charging a fare of 60 cents for adults and 30 cents for children. These calculations were badly upset when hundreds of children and adults lined up for tickets. A second, then a third, and finally a fourth train, each with 15 coaches, were finally mustered before the crowds could be accommodated. Besides regular trips for the public, there was a special "Glass Day" tour operated solely for employees of the glass companies of Toledo.

Another feature of the celebration which put the railroad industry on the lips of every Toledoan was the arrival, on "Dedication Day," of a 200-car coal train proudly emblazoned "World's Longest Coal Train to World's Largest Coal Port — Toledo." Toledo newspapers briefed the townsfolk as to vantage points from which the train could best be viewed, and thousands watched as the 1¾-mi. train double-headed into town with a pusher on the rear. Fireworks spouted from the tender of the lead engine as a low-flying airplane circled 'round the 15,000-ton shipment.

Glass Industry Prominent

The new station (which will be described in detail in a later issue of *Railway Age*) embodies many glass products in its construction, which portray Toledo's importance as a center of the nation's glass industry. A highlight of the "Glass Day" celebration (September 21) was the unveiling of a large glass mural covering an area 50 ft. long and 4 ft. high, directly over the main entrance doors. Unveiled by the oldest working glass company employee in the city, the mural depicts a map of the world superimposed over which is the message, "Toledo — Glass Center of the World," and the names and trademarks of the four participating glass companies. It is colored in hues of gray, blue and red, and dominates the view of the traveler entering the terminal.

Climaxing the entire celebration were the actual dedication ceremonies which took place on the station plaza with N.Y.C. President Gustav Metzman and Admiral Chester W. Nimitz, Jr., as principal speakers. Mr. Metzman told Toledoans that the Central had, out of its own funds, invested "substantially more than $15 million in new Toledo facilities — your new station, new yard facilities, and in your new coal and ore docks, in which the Central and the Baltimore & Ohio are equal partners." In addition, Mr. Metzman pointed to the vast expenditures that the railroad had made for post-war motive power and rolling stock which directly benefit shippers and passengers of Toledo. Yet, he continued, "$2½ billion each year are being drained out of the taxpayers' pockets to make life easy for the various competitors of your railroads. This could, without exaggeration, be called a national scandal — a scandal at *any* time, but an even greater scandal when the nation needs every ounce of its resources to combat communist aggression."

"These super-subsidies to our competitors were six times as much as the total net income of the nation's railroads last year. It is little wonder, then, that your railroads generally have not been financially able to provide new passenger stations as fast as they are desired."

Admiral Nimitz confined his remarks to international affairs. He described the United Nations as the greatest key to world peace ever devised by man, and urged every man, woman and child to support it. He said the outcome of the U.N. battle in Korea will be successful, but warned that Americans must be strong and resolute to protect their free enterprise system against the "capture of free minds by communism."

Setting the pace—

Schedule for "Dedication Sunday" (September 17), marked the beginning of seven-day civic uproar.

1:00 p.m.—Toledo chapter of "Opportunities Unlimited" (amputees) install a "Mile of Flags" in station plaza.
—Old station to be closed; last ticket sold; last train enters old station, etc.
—Formal opening of new station with infra-red radiation from molten glass pot.
—Flag raising ceremony; national anthem.

2:00 p.m.—All exhibits open.

3:00 p.m.—Stage show; aerialist.
—Open house begins.
—Girls greet trains and pass out literature in new station.

4:00 p.m.—Terminal tour.
—Carnival opens.
—Radio broadcasts from new station during afternoon and evening.

7:30 p.m.—Band concert; aerialist.

8:30 p.m.—Stage show.

—for the days that followed

"Toledo Day"—September 18
"Young Toledo Day"—September 19
"Ladies Day"—September 20
"Glass Day"—September 21
"Dedication Day"—September 22
"Celebration Day"—September 23

Post Office, Railroads Enter Mail-Pay Pact

Settle retroactive phase and some other issues of rate case

Settlement of the retroactive phase of the mail-pay case on a basis which would give the railroads an additional $150 million for carrying mail during the past four years is contemplated by an agreement reached last week by the carriers and the Post Office Department. The agreement, which will be submitted to the Interstate Commerce Commission for approval, also contemplates modification of the mail-pay rate structure to provide for separate line-haul and terminal charges, and to eliminate specific payments for return of empty cars on the same basis as payments for loaded movements.

The latter would apply to all cars used for handling mail except railway post office cars. These "would continue to be used and paid for on a round-trip basis" because they "constitute special equipment dedicated to the Postal Service," Postmaster General Jesse H. Donaldson said in announcing the agreement.

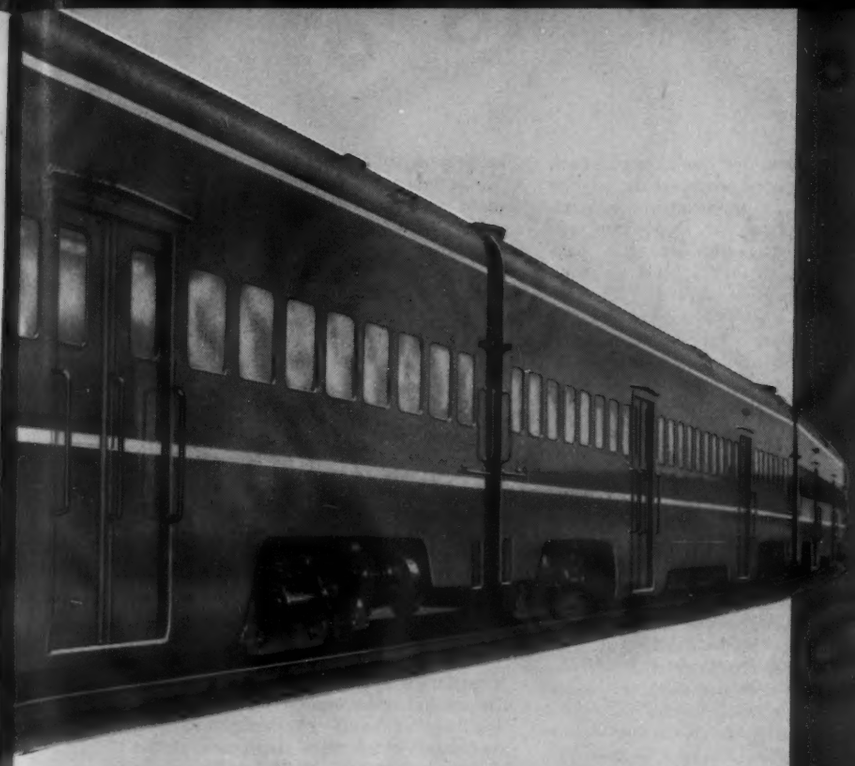
The payment for empty hauls, Mr. Donaldson noted, "has long been a source of controversy between the Post Office Department and the railroads." At the same time, he recognized that, when future rates are established on the one-way basis, "the cost of empty cars necessary to the transportation of mail would be included in the one-way rate."

I.C.C. Hearing November 8

The proposals embodied in the agreement will be submitted to the I.C.C. at a public hearing in Washington, D. C., on November 8. The hearing before Commissioner Mitchell and Examiner Mullen will be in the pending mail-pay proceeding, No. 9200, wherein the railroad application seeks an increase of 95 per cent in the mail-pay rates that were in effect on February 18, 1947, the date on which the original application was filed. The latter sought a 45 per cent advance, but subsequent amendments raised the proposed increase to 95 per cent.

Meanwhile, the railroads have been granted an interim increase of 25 per cent, which was retroactive to February 19, 1947; so the 95 per cent proposal amounts to a request for an increase of about 56 per cent in present rates. Involved also in the proposal is a request for retroactive application of the increase finally approved.

As noted above, the agreement reached by the Post Office Department and the carriers would settle this retroactive phase. The settlement would give the carriers a retroactive adjustment equivalent to an increase of about 19 per cent over present rates. Since present rates include the interim increase of 25 per cent, the settlement



SAFE SHORT SURE STOPS

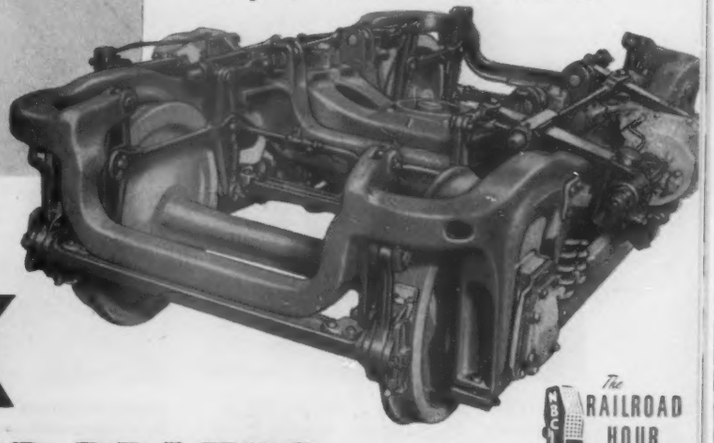
NOTHING FINER CAN BE SAID ABOUT BRAKES

Helps Keep Revenue Rolling Profitably on All Types of Passenger Equipment!

New Commuter Cars on the Rock Island's Chicago Suburban Service (above) are the *last word* in passenger convenience and comfort. The center entrance is normal-step height. Passenger movement from car to car is unobstructed by vestibules. There's fluorescent lighting, and air conditioning or filtered-air ventilation. And *smooth-acting* A.S.F. Simplex Clasp Brakes provide reliable Power to Stop!

In use since November, 1949, this Diesel-powered equipment (there are Simplex Clasp Brakes on the locomotives, too) has operated in snows and icing conditions—*in wet weather and dry*—with unimpaired dependability. On suburban service, as on high-speed Streamliners, Simplex Unit Cylinder Clasp Brakes always mean *year-round* operating efficiency.

● Well over 90% of all passenger cars purchased by U.S. railroads during the past four years are equipped with Simplex Unit Cylinder Clasp Brakes. 250% braking ratio, plus high braking efficiency, makes every stop in well below distance limits.



Streamlined, Lightweight

SIMPLEX

UNIT CYLINDER CLASP BRAKES

"Under Virtually Every Streamliner"

The RAILROAD HOUR

NBC Every Monday Night

AMERICAN STEEL FOUNDRIES

MINT MARK OF FINE CAST STEEL

Car Surpluses and Shortages

Average daily freight car surpluses and shortages for the week ending September 23 were announced by the Association of American Railroads on September 28 as follows:

	Surplus	Shortage
Plain Box	0	18,601
Auto Box	9	157
Total Box	9	18,758
Gondola	20	5,778
Hopper	40	7,083
Covered Hopper	5	136
Stock	146	155
Flat	56	1,008
Refrigerator	3,249	63
Other	242	267
	3,767	33,248

would bring the total increase above the February 18, 1947, basis up to about 48.8 per cent. The period covered by the settlement is from February 19, 1947, through December 31, 1950.

"Left for trial before the Interstate Commerce Commission," as Postmaster General Donaldson put it, "would be the level of rates for the future." That phase of the case is scheduled to come up for further hearing at Washington on November 29. The Postmaster General also noted that the agreement was being submitted by the Committee on Railway Mail Transportation to the individual roads for their ratification.

As to proposed elimination of the empty-movement provision of the present rate structure, Mr. Donaldson said the government estimates that payments for empty hauls total approximately $30 million a year. He also spoke of the Post Office Department's contention that the arrangement, "which is not applied to any other traffic," has been "a source of great abuse and unjust charges against the department."

The proposal to separate line-haul and terminal charges "would provide a more realistic approach to the problem on many individual roads where terminal costs are more frequently applied and where such costs are substantially higher," Mr. Donaldson also said. He noted that the agreement did not deal with the actual level of rates, which would be set by the I.C.C.

"The proposed new rate scale," he explained, "would supplant the existing rate scale established 32 years ago, when parcel post was in its infancy and terminal charges were of minor importance. Today parcel post has grown to major significance and terminal charges have assumed great importance in the cost of transporting mail. Under the new rate structure the carriers would be more equitably compensated and the department would for the first time know where the high costs are, thus enabling the installation of improvements to reduce such costs."

The Postmaster General concluded his statement with a prediction that settlement of the issues covered by the agreement "will enable the department and the railroads to proceed at once with the presentation of evidence as to the new rates to be established by the commission under the proposed new rate structure."

"GENERAL AMBROSE E. BURNSIDE"—in private life, Harold Hardwick, of Burnside, Ky.—used a saber to slash green and white ribbons stretched across the Southern's tracks at the opening of the road's new bridge across the Cumberland river. First train across the bridge—built as part of a line relocation around the new Wolf Creek Dam reservoir—was the northbound "Royal Palm," which carried, in addition to its regular crew and passengers and company officers, a large number of Burnside citizens who boarded the train for the short ride across the bridge to Somerset, Ky.

4th Quarter Loadings Seen Up 26 Per Cent

Big rise from strike-period level in coal, steel industries

Freight car loadings in the fourth quarter of 1950 are expected to be 26 per cent above those in the same period of 1949, according to estimates of the 13 regional Shippers Advisory Boards. About three-fourths of this increase is represented by anticipated loadings of coal, coke, ore, and iron and steel which were depressed in the fourth quarter of 1949 by strikes in the coal and steel industries. The estimated increases for commodities other than coal, coke, ore, and iron and steel is 8.3 per cent.

On the basis of these estimates, loadings of the 32 principal commodity groups will be 7,711,309 cars in the fourth quarter of 1950, compared with 6,120,492 actual loadings for the same commodities in the corresponding period last year.

All the Shippers Advisory Boards estimate an increase for the fourth quarter of 1950 compared with the same period in 1949. An accompanying tabulation shows actual loadings for each district in the fourth quarter of 1949, the estimated loadings for the fourth quarter of 1950, and the percentage of increase.

The Shippers Advisory Boards expect an increase in the loading of 29 of the commodities listed and a decrease in three. Among those showing the greatest increase are: ore and concentrates, 221.4 per cent; iron and steel, 61.7 per cent; coal and coke, 42.4 per cent; vehicle parts, 30.6 per cent; automobiles and trucks, 29.4 per cent; brick and clay products, 19.3 per cent; other metals, 14.9 per cent; frozen foods, fruits and vegetables,

Board	Actual Loadings Fourth Quarter 1949	Estimated Loadings Fourth Quarter 1950	Per Cent Increase
New England	112,369	120,414	7.2
Atlantic States	729,859	818,444	12.1
Allegheny	619,668	1,024,255	65.3
Ohio Valley	648,263	879,381	35.7
Southeast	826,102	923,458	11.8
Great Lakes	397,250	596,689	50.2
Central Western	288,353	322,414	11.8
Mid-West	726,584	903,424	24.3
Northwest	293,307	557,684	90.1
Trans-Missouri-Kansas	375,553	400,054	6.5
Southwest	513,116	521,339	1.6
Pacific Coast	339,532	374,065	10.2
Pacific Northwest	250,536	269,688	7.6
Total	6,120,492	7,711,309	26.0

13.9 per cent; sugar, syrup and molasses, 13.1 per cent; chemicals and explosives, 12.3 per cent; all grain, 11.9 per cent; machinery and boilers, 10.3 per cent; lumber and forest products, 10.2 per cent.

The only commodities for which decreases are estimated are cotton seed, soybean-vegetable cake and meal, except oil, 11.4 pr cent; cotton, 7.3 per cent, and livestock, 1.8 per cent.

Justice Dept. Heard in Last Five of Reparations Cases

Division 4 of the Interstate Commerce Commission held public hearings in Washington, D.S., this week to receive, from the Department of Justice, evidence in support of the federal government's complaints in the fourth and last group of the so-called reparations cases. Five complaints were involved, but only four separate cases, two of the complaints having been consolidated into one proceeding at the request of the Justice Department.

Like 12 other pending proceedings, the cases heard this week arose out of complaints whereby the government is seeking to recover alleged overcharges it claims the railroads assessed on its shipments of various commodities during World War II. The hearings began on September 25 with Commissioners Mahaffie, Rogers and Mitchell sitting as members of Division 4. Also on the bench were Examiners Howard Hosmer and M. L. Boat.

The four proceedings are: The consolidated cases, Nos. 29822 and 29861, wherein the complaints assail charges paid by the government on shipments of ammunition and explosives and small-arms ammunition; Nos. 29761 and 29875, wherein the complaints, respectively, assail charges paid on shipments of airplanes and airplane parts and of steel ammunition links and cartridge clips; and No. 29918, wherein the complaint assails charges paid by the former United States Maritime Commission on shipments of iron and steel articles, such as bars, beams and angle, from Minnequa, Colo., to destinations on the Pacific Coast.

The Justice Department offered evidence embodied in more than 60 statements and some 35 exhibits. Cross-examination by railroad counsel of those who prepared the statements and exhibits comprised the principal subject-matter of the hearings. Generally the government's evidence, like that it has offered in the other cases, was calculated to show that the assailed rates and ratings resulted in charges higher than those applicable on what the witnesses contended were like commodities moving under like transportation conditions.

Ford K. Edwards, former director of the commission's Bureau of Accounts and Cost Finding, who is now director of the National Coal Association's Bureau of Coal Economics, also appeared as a witness. He was called by railroad counsel for questioning with respect to railroad cost studies made under his direction when he was on the commission's staff. The studies had been used by the Justice Department in preparing evidence submitted at earlier hearings on some of the other complaints.

The commission has already concluded hearings on five of these other complaints (See *Railway Age* of March 25, page 64); and it has received the government's evidence on the second and third groups of four and three cases, respectively (See *Railway Age* of May 27, page 46, and June 17, page 77). The future schedule, as now fixed, calls for a further hearing on January 16, 1951, for the purpose of receiving the railroads' rebuttal evidence on these second and third groups of cases and on the proceedings involved in this week's session.

Those sessions continued for three days, from September 25 through September 27, and then recessed until October 3 at Dayton, Ohio. The shift from Washington was made to accommodate some of the government's witnesses who are now stationed at Dayton.

Agreements Signed In Switchmen's Case

Final settlement of the wage and rules dispute between 10 western railroads and their yard-service employees who are represented by the Switchmen's Union of North America came in Washington, D. C., on September 21, when representatives of the parties signed new working agreements. The agreements embodied the settlement terms proposed by Dr. John R. Steelman, assistant to President Truman, and accepted by the parties sometime ago.

A second Washington development of the past week came in another of the pending 40-hour-week cases—that involving demands of yardmasters represented by the Railroad Yardmasters of America. A conference, under the auspices of the National Mediation Board, was held September 27 between representatives of that union, headed by President M. G. Schoch, and the regional railroad conference committees. Meanwhile, the impasse has continued in the like dispute involving employees represented by the Brotherhood of Railroad Trainmen and Order of Railway Conductors.

Those two unions rejected the Steelman proposal which settled the S.U.N.A. case. As noted in *Railway Age* of September 9, page 68, that settlement provides for a wage increase of 23 cents per hour, effective October 1, and quarterly cost-of-living adjustments; adoption in principle of the five-day, 40 hr. week but deferment of its installation; and various other adjustments recommended by the emergency board which investigated the case along with the B.R.T.-O.R.C. and R.Y. of A. disputes.

Wright Heads A.R.C.I.; Felton Shippers' Car Line President

Charles W. Wright, president of the Pullman-Standard Car Export Corporation, has been elected president of the American Railway Car Institute to succeed Samuel L. Felton, who resigned to accept the presidency of the Shippers' Car Line Corporation, a wholly owned subsidiary of the American Car & Foundry Co.

Schedule Changes

Virtually no important service or running-time changes were made by railroads when daylight saving time ended on September 24. The Baltimore & Ohio announced inauguration of Diesel-electric motive power for its "Metropolitan Special" between Washington, D.C., and St. Louis, Mo. Westbound, the train's schedule was reduced 1 hr. and 15 min., while the eastbound section speeded up its schedule by 39 min. The eastbound "Washingtonian" from Cleveland, Ohio, operates on an earlier schedule, leaving Cleveland at 8:15 a.m., Eastern standard time, and arriving in Baltimore, Md., at 7:45 p.m., e.s.t. The "Cincinnatian" cut its time between Detroit, Mich., Toledo, Ohio, and Cincinnati by 25 min. in each direction.

The Boston & Maine cut the running time of its Boston, Mass.-North Conway, N.H.-Intervale morning train by 35 minutes. New service on the Maine Central's Rockland branch consists of a train leaving Portland, Me., with an air-conditioned coach as regular equipment and arriving at Rockland 35 min. earlier than the previous schedule. The New York, New Haven & Hartford began a new roundtrip service from New York to Hartford, Conn., and Springfield, Mass., the only stop en route being at New Haven, Conn. The train leaves New York, Mondays through Fridays, at 4 p.m., and departs from Springfield at 1:45 p.m. Seven additional trains are now operated between Worcester, Mass., and Providence, R. I.; Springfield and New York; Waterbury, Conn., and Boston; and New Haven and New York.

Post Office Told to Seek Higher Parcel Post Rates

Congress has included in a recently enacted appropriations act a provision which will have the effect of requiring the postmaster general to seek the consent of the Interstate Commerce Commission for an increase in parcel post rates. The petition to the commission would be filed pursuant to that provision of the parcel post law which authorizes the postmaster general to

(Continued on page 48)

Orders, orders...and reorders

for PS-1 ...*a quality box car* ...*efficiently produced*

Calling the roll is sufficient. Here are the railroads whose orders and reorders give convincing testimony to the high quality of the PS-1 box car. These thirty-six railroads have bought 34,495* of these sturdy, dependable cars since their introduction in 1947. Each star indicates a reorder.

Pullman-Standard

CAR MANUFACTURING COMPANY

CHICAGO · NEW YORK · CLEVELAND · WASHINGTON, D. C. · PITTSBURGH
BIRMINGHAM · SAN FRANCISCO

**As of September 15, 1950*

Akron, Canton & Youngstown
Atchison, Topeka & Santa Fe *
Birmingham Southern
Boston & Maine *
Canadian Pacific
Chesapeake & Ohio *
Chicago & Eastern Illinois
Chicago Great Western
Chicago, Indianapolis & Louisville *
Chicago and North Western ****
Chicago, Rock Island & Pacific
Chicago, St. Paul, Minneapolis & Omaha
Copper Range *
Delaware & Hudson *
Delaware, Lackawanna & Western
Duluth, South Shore & Atlantic
Grand Trunk Western
Green Bay & Western
Kansas City Southern *
Lake Superior & Ishpeming
La Salle & Bureau County
Lehigh Valley *
Louisville & Nashville **
Maine Central
Mississippi Central
Missouri–Kansas–Texas
New York Central ***
New York, New Haven & Hartford **
Nickel Plate *
Norfolk & Western
Pittsburgh & West Virginia
Savannah & Atlanta
Seaboard Air Line **
Southern **
St. Louis–San Francisco *
Union Pacific

MEMO

In building the PS-1, standardization never holds back progress. Dozens of improvements have been adopted since the first PS-1 rolled off the production line in June, 1947.

THE 85 MEMBERS of the "Railroad Study Delegation" from 12 European Marshall Plan countries who are studying and observing technical details of railroad operation and maintenance in the United States as a part of the Economic Cooperation Administration program, were guests of the Chicago, Indianapolis & Louisville on September 16. They were taken on a special train to see the Monon's new bridge spanning the Wabash river at Delphi, Ind.; a section of welded rail; the Monon's shops at Lafayette, and a motion picture sponsored by the Indiana Limestone Institute at Bedford. The tour included a short visit to French Lick Springs, where this picture was taken

(Continued from page 45)
revise the rates on such matter, provided the commission approves.

The directive from Congress was contained in an act which evolved from the Bill H.R. 9526. It makes various supplemental appropriations, including some for the Post Office Department, for the current fiscal year. "Hereafter," the directive reads, "none of the funds appropriated to the Post Office Department from the general fund of the Treasury shall be withdrawn from the Treasury until the postmaster general shall certify in writing that he has requested the consent of the Interstate Commerce Commission to the establishment of such rate increases . . . as may be necessary to insure the receipt of revenue from fourth-class mail service sufficient to pay the cost of such service."

This provision, originally in the House version of the bill, was eliminated by the Senate but restored by the Senate-House conference committee which framed the final version. In explaining the restoration, the House members of the conference committee said it was the opinion of the conferees that the provision "will strengthen the Post Office Department's position" in the pending proceeding wherein the railroads are seeking increased rates for carrying the mail.

Presumably, the idea was to advise the commission that if it raised mail pay, it could expect requests that it consent to higher parcel post rates. As the statement of the House conferees put it, the provision would make the commission "aware of the intent of Congress to require the postmaster general henceforth to fix rates on fourth-class mail at a level to produce sufficient revenue to pay the cost thereof."

Shippers Support Plan For Better L.C.L. Service

Great Lakes shippers went on record in Toledo, Ohio, on September 20, that the Interstate Commerce Commission should be advised that "jittery" car loading and moving orders are not helping the railroad situation, and in favor of an 18-point program to improve railroad less-carload freight service.

The shippers, attending the quarterly meeting of the Great Lakes Regional Advisory Board, approved remarks by several members that the I.C.C. was "shooting before it sees the enemy." Andrew H. Brown, of Cleveland, the board's legislative committee chairman, who led the discussion, described as "a spectacle" the four recently issued I.C.C. service orders, Nos. 865 to 868, inclusive. "Each of these," he said, "had to have something done to it. There's no sense in such a procedure. We're in a panic if we shoot out orders to get into effect in 48 hours, then 36 hours later recall the order to give it a later effective date. Let's not get jittery."

K. A. Moore, of Detroit, general traffic manager of the Automobile Manufacturers Association, pointed out that "There is now no sign of complete conversion to a war economy. We will have considerable 'normal conditions' while we are in this preparedness phase and we need cars to meet these. Authorities should take another look at this thing. Some orders can be postponed for a long time or even cancelled out indefinitely."

The board voted unanimously to ask W. T. Faricy, president of the Association of American Railroads, to discuss with the commission the wisdom of deferring, until entirely necessary, orders like the four recently issued.

A 5-day week is a luxury the country cannot afford at this time, R. E. Clark, manager of the Closed Car Section of the A.A.R.'s Car Service Division, told the board. The switch from a 6-day to a 5-day week in both industry and the railroads, he said, is the equivalent of dumping 175,000 freight cars into the river, since that many technically are being put out of service due to slower loading, movement and unloading.

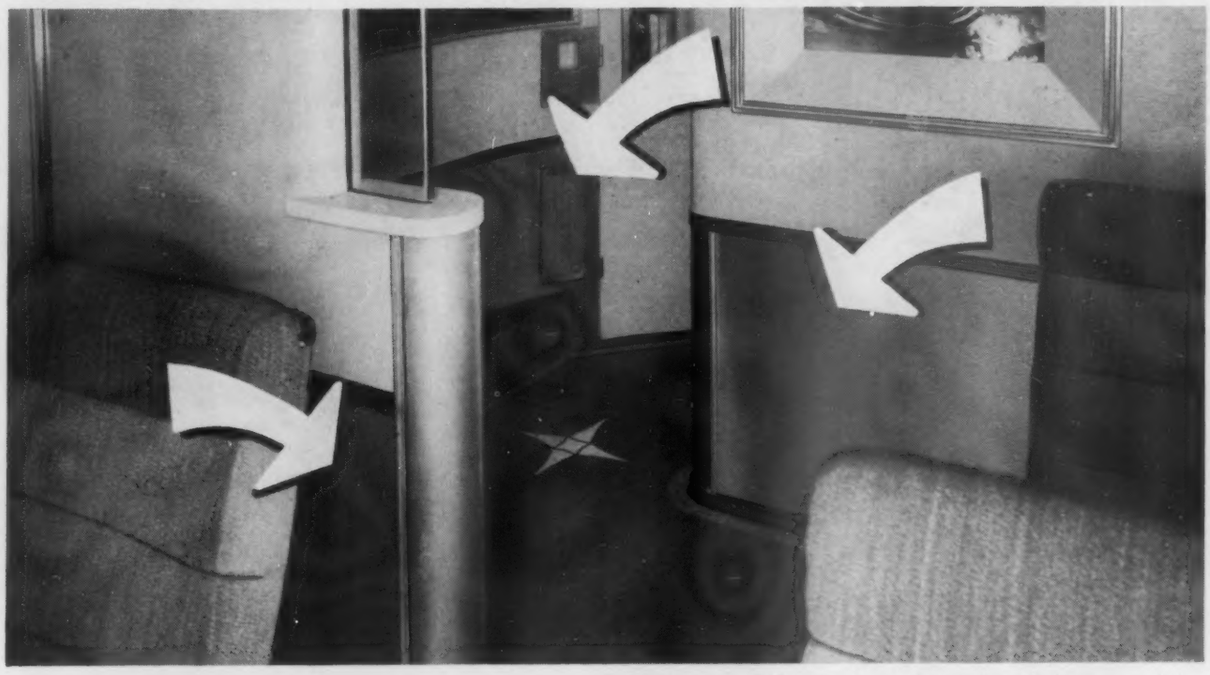
The board approved its railroad contact committee's recommendation that all member roads adopt an 18-point program recently outlined in Chicago, which aims to perfect l.c.l. service and to attract additional traffic for rail movement. The committee declared that little more can be accomplished through shippers boards' l.c.l. committees or any other organizations set up to handle l.c.l. service until individual corrective action is taken by all the railroads. The 18-point program includes:

1. Effective individual action by railroads;
2. Elimination of transfers;
3. General maintenance of service;
4. More overhead cars;
5. Reduction in terminal delays;
6. Reduction in circuitous routing;
7. Tracing records;
8. Organized arrangement for facts on actual movement;
9. Route guide or car directory;
10. Handling between terminals at common points;
11. Delay in waybilling and handling causing no-bill cars;
12. To get cars in train in which they are supposed to move;
13. Through billing with underlying forms;
14. Identify officer handling l.c.l. matters in the Official Guide;
15. Transfer in terminal movement by truck;
16. Restore solicitation of l.c.l. traffic;
17. Centralized organization of individual lines for handling l.c.l. traffic, and
18. Expanded rail-truck coordinated service.

R.E.A. Strike Embargoes New York L.C.L. Shipments

The Railway Express Agency has announced it will not participate in mediation sessions to end a strike of some 2,300 truck drivers and helpers, members of the International Brotherhood of Teamsters, American Federation of Labor, unless the men, striking in the New York metropolitan area, return to work. The strike began September 23 and the next day the agency *(Continued on page 53)*

Stainless stands up!
Stainless stands out!



Photos courtesy Pullman-Standard Car Manufacturing Company and the Nickel Plate Road. Lower wainscoting is rigidized stainless steel.

There you have two big reasons why handsome, durable Armco Stainless Steel is finding such wide use in new and rebuilt cars.

Once you install Armco Stainless, you know it should last the life of the car. This solid, rustless metal has no plating to chip or wear off. In kick plates, bulkheads and lower rigidized side walls (see photographs above) it stands up under the constant punishment of bumping feet or carelessly handled luggage.

In hardware and handrails—and in complete exteriors—it stands up under the most severe weather and travel conditions. It protects itself against staining and corrosion. And simple cleaning with soap and water keeps it looking bright and attractive year after year.

Experienced shop men know, too, that Armco Stainless can be readily formed, cut, drawn, welded and machined.

The cost-per-year of stainless steel is lower than you may think. So if you haven't already done so, it will pay you to get acquainted with this gleaming, modern metal. For complete information and technical data, just get in touch with our nearest district office or write directly to us at the address below.

50th ANNIVERSARY SPECIAL PURPOSE STEELS

ARMCO STEEL CORPORATION

520 CURTIS STREET, MIDDLETOWN, OHIO, WITH PLANTS AND SALES OFFICES FROM COAST TO COAST • THE ARMCO INTERNATIONAL CORPORATION, WORLD-WIDE

ARMCO

310
310
310
GREAT NORTHERN
RAILWAY

"Progress is a Great Northern Habit"

WINNING TONNAGE BACK TO THE RAILS

Out of the fertile, productive Pacific Northwest, modern locomotives speed industrial goods, lumber and perishables along the Great Northern. Thousands of tons of grain from the western plains, ore from the Mesabi range to the north—all moved dependably, swiftly, and safely to the great market places of America.

The dependable railway freight schedules of today are testimony to the advances made in recent years. They are achieved through the employment of new ideas, new methods of operation, and the imaginative application of modern equipment.

Such service—competitive service—is the only real key to rail transportation progress, higher operating revenues. Alco-GE diesel-electric locomotives—on the Great Northern and other major railroads—are a symbol of this revitalized progress that is winning more freight tonnage back to the rails.

113-246

AMERICAN LOCOMOTIVE
and
GENERAL ELECTRIC

Partners with the railroads in their competitive bid for traffic.

Added Service en route with DIXIE CUPS

To the traveler by rail, Dixie Cups are old friends. From the pioneer days when paper service supplanted the tin cup in passenger cars, Dixies have become the most popular of all paper cups. Yes . . . Dixies are the recognized favorite with *your* passengers when they look for a clean, safe drink en route.

For all passenger service . . . in coaches, parlor cars, bedrooms or roomettes . . . Dixie Cups provide a convenience en route that meets the most fastidious demands for sanitary drinking water facilities.

There is modern Dixie equipment available for every type of installation offering exclusive features that permit interchangeable use of either flat-bottom Dixies or cone-shaped Vortex Cups.

Special imprinting of cups with your insignia, slogan, name or other message to your order.

STREAMLINER
. . . trim, smart, easy to mount anywhere. Clear plastic window signals refill need. Holds flat-bottom Dixies or cone-shaped Vortex Cups . . . either large or small sizes.

RECESSED DISPENSER
. . . modern satin-chrome finish. Fits flush with bulkhead. Exclusive Dixie adaptors permit use of either flat-bottom Dixies or cone-shaped Vortex Cups . . . large or small.

SPACE SAVER
. . . designed especially for roomettes, bedrooms; wherever space is limited.

Write to Railroad Department,

DIXIE CUP COMPANY

Easton, Pa.

"Dixie" and "Vortex" are registered trade marks of the Dixie Cup Company

DIXIE CUP ®

STANDARD IN RAILROAD SERVICE FOR OVER 30 YEARS

(Continued from page 48)
put an embargo on all l.c.l. shipments into, out of, or through, New York City. Albert M. Hartung, vice-president in charge of personnel and public relations, explained the company's decision by repeating the firm's charge that the strikers have ignored mediation procedure of the Railway Labor Act, thus making the strike illegal.

Demands of the union include a wage increase of 20 cents an hour, longer vacations, an extra paid holiday and a guarantee of annual jobs for 3,500 teamsters, compared with present employment of about 2,300. These demands, the company said, would increase its payroll covering those employees by nearly $9,000,000, or 100 per cent.

All-Rail Ore Movements This Winter Held Likely

Possibility of an all-rail winter movement of iron ore from the Minnesota ranges to the Pittsburgh-Youngstown-Chicago area was advanced by Arthur H. Gass, chairman of the Car Service Division, Association of American Railroads, in his latest review of the "National Transportation Situation."

Mr. Gass said the lake ore picture "is causing considerable concern to the steel industry," with the present deficit in lake movements nearly 10 million tons below 1949. While he noted that the lake coal program is making "satisfactory progress," Mr. Gass said late opening of navigation this year, together with increased consumption, has made the ore situation "not nearly so favorable."

Meanwhile, in opening this issue of his review, Mr. Gass had given first consideration to the recently issued service orders of the Interstate Commerce Commission. These orders, as reported in *Railway Age* of September 16, pages 85 and 91, and September 23, page 56, are designed to help relieve present freight car shortages by promoting more efficient use of cars.

Turning to the equipment situation, the C.S.D. chairman pointed up the increased orders for freight cars and locomotives that have been placed in recent weeks. As of September 1, there were about 81,000 new cars on order, Mr. Gass said. He spoke of the "record breaking placement of orders" in July and August, and said the year's total of cars ordered is "approaching 100,000 and will pass that figure by the end of September."

As to locomotives, he said 445 were ordered in August — a 25-year high — and the backlog on order September 1 amounted to 1,388. The August orders represented 433 Diesel-electric and 12 electric locomotives.

Mr. Gass also commented upon the "substantial reduction" in bad order cars that has taken place in the past two months. There were 113,654 such cars as of September 1, a reduction of "nearly 10,000" since July 1, and almost 19,000 below September 1, 1949. Mr. Gass went on to say that such reductions represent "satisfactory progress" by the roads on this problem, and that there are now almost as many serviceable cars as there were January 1, "when car ownership was greater by 32,000."

Other figures presented by Mr. Gass indicated that 8,133 new freight cars of all types were installed in July and August. In the same period, 351 locomotives were installed, of which 346 were Diesel-electric, 2 steam, and 3 electric. Meanwhile, in the two months, there were retirements of 13,384 cars and 321 locomotives.

For the year ended August 31, 39,033 new freight cars were placed in service, while retirements for the period amounted to 89,179. However, as compared to the 27,681 cars on order September 1, 1949, there were 80,937 on order on September 1, 1950.

The discussion by Mr. Gass of the current car situation indicated that large shortages continue in both box and open top cars. Mr. Gass said the supply of all classes of box cars "is inadequate to meet current needs," with demands likely to grow until the annual peak loading period is passed late in October. Shortages of box cars have been averaging around 20,000 a day in recent weeks, Mr. Gass said.

With harvesting of the spring wheat crop under way, the C.S.D. Chairman said grain-originating roads of the Northwest are being given special assistance, but car shortages continue. As of September 8, he said, 1,817 country elevators were closed, with 6,527,500 bushels of grain stored along railroad rights-of-way. Meanwhile, he added, the situation has been aggravated again this season by the necessity of moving a large backlog of last year's grain either just in advance of or concurrently with the new crop.

The demand for open top cars has greatly increased in the past 10 weeks, Mr. Gass said, and shortages have mounted "until they reached a daily average of from 15,000 to 16,000 cars during the past few weeks." Prospects for an early change in this condition "are not too favorable." Mr. Gass added. He said demands for hoppers "continue heavy" with "some rather serious shortages" being reported. As to gondolas, he indicated that "a very tight supply" will prevail for the next several months.

The average turn-around time of freight cars in August, as reported by Mr. Gass, was 13.84 days. The comparable figure for August, 1949, was 15.78 days. Cars detained beyond the 48 hours free time averaged 21.65 per cent of the total placed in August. This compared with 22.81 per cent in July and 18.84 per cent in August, 1949.

Faricy Reports Improved Bad-Order Car Situation

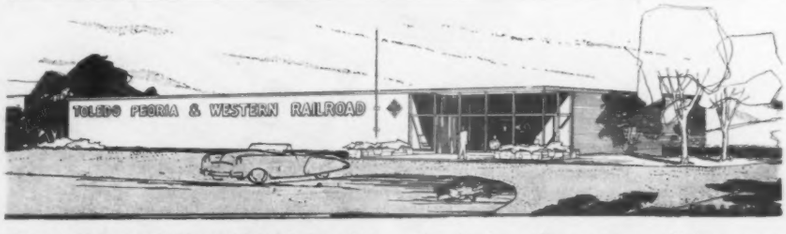
As part of their program to increase the number of available freight cars, railroads made a greater net reduction in unserviceable cars during August than in any month since October, 1939, William T. Faricy, president of the Association of American Railroads, said last week.

On September 1, Mr. Faricy said, the railroads had 14,633 fewer freight cars undergoing or awaiting repairs than they had on August 1. On September 1, he stated, there were 108,346 unserviceable cars as compared with 122,979 on August 1. This represents a reduction in the number of unserviceable cars from 7.1 per cent of the total ownership to 6.3 per cent, he added.

"This means," Mr. Faricy explained, "that the railroads during August repaired freight cars at a rate which not only equalled the number sent to repair shops during the month but also cut substantially into the backlog of cars awaiting repair.

"The railroads accomplished this by expanding car repair forces and by extending the working time of their shops in line with the equipment program which they adopted on July 28 to help meet the nation's increased transportation demands. They will continue to exert every effort to restore to service as quickly as possible every car in need of repair or rebuilding."

(Continued on page 56)



THIS NEW OFFICE BUILDING for the Toledo, Peoria & Western is to be constructed adjacent to the yards at East Peoria, Ill. Completely air-conditioned, the new structure will offer 18,000 sq. ft. of space for offices and other purposes. Although in this view the building appears to have only one story, the lower, or ground floor, which opens to the back, will contain a dining room, locker room and storage space. Structural steel will be used for the interior while the outside of the building will be of windowless concrete block and face brick construction. It is expected that the building will be completed within six months. It will cost approximately $150,000

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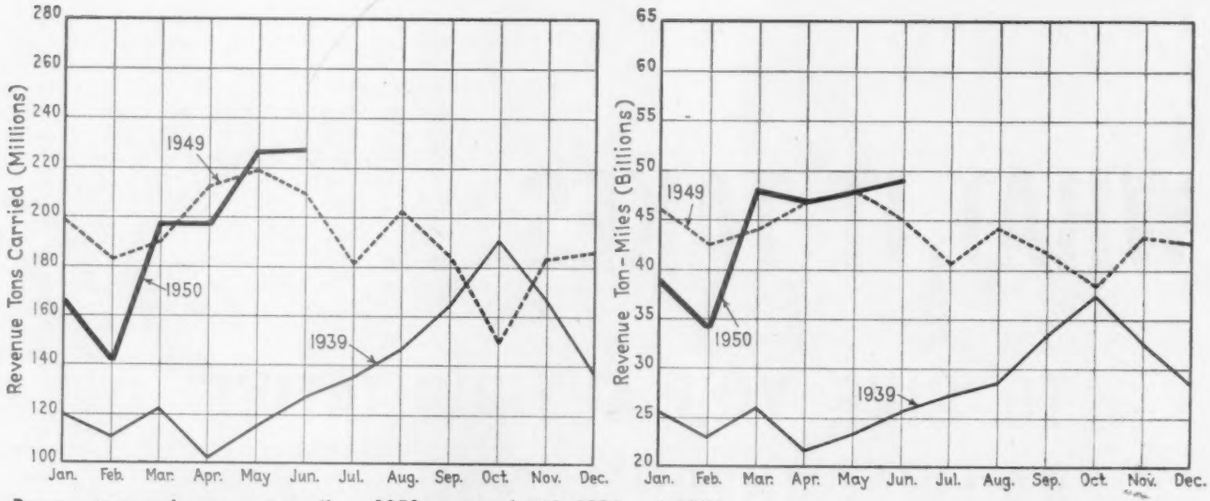


Revenue tons and revenue ton-miles—1950 compared with 1939 and 1949

(Continued from page 53)

Great Lakes Package Freight for Surplus Ships

With the signature of President Truman, the so-called Great Lakes package freight ship bill will become law, and 10 ocean vessels, built during World War II, will become available to Great Lakes operators at a fraction of actual cost. The Detroit & Cleveland Navigation Co. has already announced plans to acquire five of the vessels as soon as they are available. The company plans to use them not only for transportation of package freight, but also as passenger carriers and as transporters of loaded truck trailers. Another operator, the Wisconsin & Michigan Steamship Co., has expressed keen interest in the ships but has not yet announced any definite plan for their acquisition.

Under the law, the federal government will subsidize as much as 90 per cent of the unadjusted statutory sales price of each vessel, but the operator will be obliged to pay costs of changes necessary before the boats can be used in the Lakes, and transportation; several bridges en route presently obstruct passage and the ships must be floated via inland waterways to Chicago from the Gulf of Mexico. It has been estimated that the total cost to the buyers will be between $3.5 and $5 million for each vessel.

Steel Production Sets Record

The largest amount of steel ever made in one week is scheduled to be poured from steelmaking furnaces during the week ending September 30, according to an announcement of the American Iron & Steel Institute. The production is scheduled to total 1,942,200 tons. The highest previous weekly tonnage was 1,940,600 tons, during the week of May 22, 1950. This compares with 1,936,400 tons of steel ingots and castings scheduled for last week, 1,559,600 tons one year ago, and 1,281,210 tons for the average week in 1940, the highest prewar year.

Freight Car Loadings

Loadings of revenue freight in the week ended September 23 totaled 870,196 cars, the highest since November, 1948, the Association of American Railroads announced on September 28. This was an increase of 3,989 cars, or 0.5 per cent, compared with the previous week; an increase of 208,728 cars, or 31.6 per cent, compared with the corresponding week last year; and a decrease of 38,396 cars, or 4.2 per cent, compared with the equivalent 1948 week.

Loadings of revenue freight for the week ended September 16 totaled 866,207 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, September 16

District	1950	1949	1948
Eastern.....	148,662	134,159	158,249
Allegheny ...	174,869	141,751	186,938
Pocahontas ..	66,190	49,156	72,144
Southern	133,126	115,953	134,141
Northwestern.	143,285	131,157	149,402
Central Western	135,248	124,001	138,402
Southwestern.	64,827	46,845	70,713
Total Western Districts ...	343,360	302,003	358,517
Total All Roads	866,207	743,022	909,989
Commodities:			
Grain and grain products ...	50,248	48,433	51,137
Livestock	12,842	15,458	16,736
Coal	159,812	129,250	179,550
Coke	15,319	10,082	14,458
Forest products	49,307	39,852	51,811
Ore	82,476	62,743	72,929
Merchandise l.c.l.	89,963	85,520	108,816
Miscellaneous.	406,240	351,684	414,552
September 16..	866,207	743,022	909,989
September 9..	751,276	623,962	789,011
September 2..	852,321	703,934	895,131
August 26 ...	838,429	747,211	891,666
August 19 ...	851,025	731,215	900,663
Cumulative total 37 weeks ..	26,749,081	26,493,382	30,407,577

In Canada.—Carloadings for the week ended September 16 totaled 88,090 cars, compared with 78,023 cars for the previous week, and 86,039 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:*		
September 2, 1950..	47,639	22,120
September 3, 1949..	85,027	30,580
September 16, 1950.	88,090	34,840
September 17, 1949.	86,039	30,192
Cumulative totals for Canada:		
September 16, 1950.	2,655,726	1,129,963
September 17, 1949.	2,723,123	1,138,390

*Carloadings for week ending September 9 were reported in Railway Age of September 23, page 50.

Trilane Publishing Daily Federal Freight Report

Trilane Associates, Inc., 1 Hudson st., New York 13, is now offering to carriers of all types a new confidential service designed to aid them in obtaining speedy and accurate information concerning freight shipments resulting from government contracts.

The new service — which is said to be the first of its kind — is known as the Daily Federal Freight Report. It lists names and locations of shippers in government contracts, along with information as to the commodity involved, amount of tonnage, point of origin and destination of shipment, and whether the goods will travel on commercial or government bill of lading.

The report will be issued every Monday through Friday, except legal holidays. One issue each week will be devoted entirely to shipments of fuel and oil, while other issues will list shipments of general freight; each issue is expected to contain more than 100 listings. Subscription price is $100 per month.

Dr. Behling Reviews Subsidy Situation

The Legislative Reference Service of the Library of Congress has published a bulletin on "Subsidies to Transportation," which was prepared by its senior specialist in transporta-

tion and communications, Dr. Burton N. Behling. Dr. Behling was director of the public aids studies made by the former Board of Investigation and Research.

His present study is the Reference Service's Public Affairs Bulletin No. 86. It presents the "principal circumstances regarding problems of transportation subsidy," but, "in accordance with the policy of the . . . Service, recommendations are not made." The bulletin is a document of 58 pages; and copies may be purchased for 40 cents each from the Card Division, Library of Congress, Washington 25, D. C.

To Reopen Camp Kilmer

The Department of the Army has announced that Camp Kilmer, N. J., will be partially reactivated "in connection with Transportation Corps activities." The announcement said approximately 4,000 troops will be stationed at the camp, which is located near Stelton, N. J.

S. E. Shippers Praise RR Handling of Car Supply

Railroads in southeastern states received some unexpected bouquets from their shippers when the Southeast Shippers Advisory Board held its 91st regular meeting at Savannah, Ga., on September 13 and 14. The board's views were summed up by C. A. Barinowski, chairman of its crushed stone, sand, gravel and slag committee, who remarked that "Although many of us came here to criticize, we remained to praise. The carriers certainly seem to fully sense the need for improvement in the car supply in our region, and all indications are that they are taking the necessary steps to improve this situation as promptly as possible."

Mr. Barinowski's statement followed a detailed three-hour questioning of railroad transportation officers as to the car supply situation and action being taken to correct it; other board members described as "highly creditable" the replies to the questions.

W. E. Callahan, manager, Open Top Section, Car Service Division, Association of American Railroads, discussed the general car supply situation; and Gregory S. Prince, assistant general counsel, A.A.R., outlined legislative hindrances.

New Tax Act

Increased corporate income taxes and provisions for accelerated amortization of defense facilities are included in the tax bill, H.R. 8920, which Congress passed last week before it recessed until November 27. The bill was signed by President Truman on September 23.

The new corporate income tax rates are 42 per cent for 1950 and 45 per cent for 1951, the normal rate being increased to 23 per cent for 1950 and 25 per cent for 1951, with surtax rates of 19 per cent and 20 per cent, respectively. Meanwhile, the act contains a directive calling upon the House committee on ways and means and Senate committee on finance to report "as early as practicable" after Congress returns from its recess a bill for raising additional revenue by levying excess profits taxes with retroactive effect to October 1 or July 1.

In the latter connection, the chairman of the House ways and means committee, Representative Doughton, Democrat of North Carolina, has announced that this committee would begin public hearings November 15 on excess-profits-tax proposals. He also announced that, in compliance with the act's directive, Congress' joint committee on internal revenue taxation would begin soon a series of conferences with the staff of the Treasury Department. President Truman called for enactment of an excess-profits tax in his September 9 radio address, when he referred to the present act's increases as "only the first installment."

The accelerated-amortization provision is applicable to defense facilities acquired after December 31, 1949. It permits the amortization of such facilities over a period of 60 months—provided they have been certified as necessary to national defense under certi-

Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

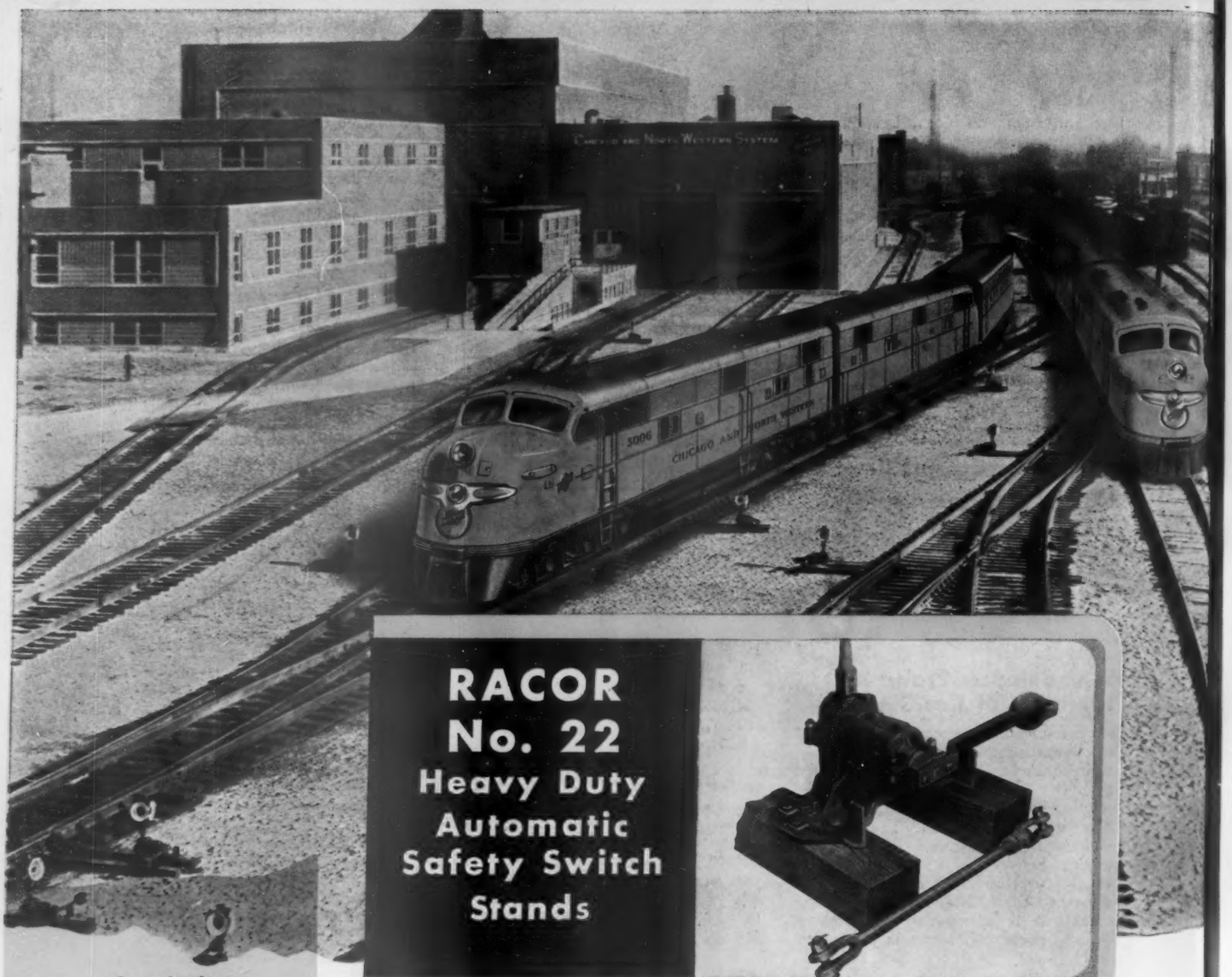
Compiled from 127 reports (Form IBS) representing 131 steam railways

(SWITCHING AND TERMINAL COMPANIES NOT INCLUDED)

Income Items	United States For the month of June 1950	1949	For the six months of 1950	1949
1. Net railway operating income	$90,046,715	$61,111,556	$347,810,608	$315,189,226
2. Other income	22,625,242	23,394,291	112,336,995	104,936,742
3. Total income	112,671,957	84,505,847	460,147,603	420,125,968
4. Miscellaneous deductions from income	3,893,041	2,582,771	22,741,516	18,876,485
5. Income available for fixed charges	108,778,916	81,923,076	437,406,087	401,249,483
6. Fixed charges:				
6-01. Rent for leased roads and equipment	8,152,378	11,364,410	56,478,788	57,551,742
6-02. Interest deductions[1]	25,164,301	25,014,187	150,073,755	148,483,056
6-03. Other deductions	224,980	212,412	1,295,991	1,157,790
6-04. Total fixed charges	33,541,659	36,591,009	207,848,534	207,192,588
7. Income after fixed charges	75,237,257	45,332,067	229,557,553	194,056,895
8. Other deductions	3,187,621	3,029,253	19,144,329	18,296,880
9. Net income	72,049,636	42,302,814	210,413,224	175,760,015
10. Depreciation (Way and structures and Equipment)	35,725,621	34,029,963	210,864,525	199,636,238
11. Amortization of defense projects	1,372,254	1,372,995	8,237,366	8,227,318
12. Federal income taxes	34,360,843	24,059,206	145,461,538	129,651,624
13. Dividend appropriations:				
13-01. On common stock	13,276,309	12,844,577	81,793,689	90,663,259
13-02. On preferred stock	1,464,695	1,055,752	32,667,172	33,699,401
Ratio of income to fixed charges (Item 5÷6—04)	3.24	2.24	2.10	1.94

Selected Expenditures and Assets Items	United States Balance at the end of June 1950	1949
17. Expenditures (gross) for additions and betterments—Road	$119,638,895	$161,296,075
18. Expenditures (gross) for additions and betterments—Equipment	373,009,005	556,304,378
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	480,724,796	514,756,234
20. Other unadjusted debits	105,741,337	134,048,989
21. Cash	836,239,628	693,927,232
22. Temporary cash investments	861,285,783	836,921,541
23. Special deposits	120,748,422	118,498,485
24. Loans and bills receivable	1,036,671	890,044
25. Traffic and car-service balances—Dr.	54,799,677	54,982,790
26. Net balance receivable from agents and conductors	130,657,802	122,566,397
27. Miscellaneous accounts receivable	269,749,311	295,058,737
28. Materials and supplies	710,812,348	850,761,407
29. Interest and dividends receivable	11,884,916	13,017,695
30. Accrued accounts receivable	177,847,563	151,383,706
31. Other current assets	32,918,246	39,190,762
32. Total current assets (items 21 to 31)	3,207,980,367	3,177,198,796
Selected Liability Items		
40. Funded debt maturing within 6 months[3]	$135,337,986	$129,934,143
41. Loans and bills payable[2]	4,663,449	6,006,825
42. Traffic and car-service balances—Cr.	92,619,421	78,680,928
43. Audited accounts and wages payable	448,771,398	480,027,998
44. Miscellaneous accounts payable	216,307,646	220,595,632
45. Interest matured unpaid	46,705,358	46,618,632
46. Dividends matured unpaid	16,322,657	20,189,818
47. Unmatured interest accrued	60,828,624	57,691,816
48. Unmatured dividends declared	14,746,847	14,554,473
49. Accrued accounts payable	177,083,885	155,977,563
50. Taxes accrued	582,683,835	676,559,032
51. Other current liabilities	97,137,718	73,890,813
52. Total current liabilities (items 41 to 51)	1,757,870,838	1,830,793,530
53. Analysis of taxes accrued:		
53-01. U. S. Government taxes	422,369,379	528,668,397
53-02. Other than U. S. Government taxes	160,314,456	147,890,635
54. Other unadjusted credits	268,851,911	271,812,756

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which becomes due within six months after close of month of report.
[3] Includes obligations which mature not more than one year after date of issue.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission.
Subject to revision.



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RENOVATION OF EXISTING EQUIPMENT is the No. 2 plank in the railroad industry's three-way drive to increase the supply of available freight cars. Here, M. E. Fitzgerald, retiring assistant superintendent of motive power of the Chicago & Eastern Illinois (left), checks over with George E. Bennett, superintendent of motive power, a group of hopper cars just off the road's repair assembly line at Oaklawn yards (near Danville, Ill.)

fying arrangements set up by the President. The provision is like that which was in effect during World War II.

Other provisions of the act include those which extend for one year, until December 31, 1951, those sections of the Internal Revenue Code which exclude from taxation the gains resulting from reduction of indebtedness in reorganization proceedings or the acquisition by a corporation of its own obligations at a discount. Also, the so-called carry-back and carry-forward provisions were modified to permit the carrying forward of net operating losses for five years, but to limit the carry-back period to one year. Both the carry-back and carry-forward periods had previously been two years.

Eliminated from the act's final version was a provision (in the bill at one stage of its journey through Congress) which would have required that losses from abandoned property, such as railroad lines, be treated as capital losses. Such losses will thus continue to be treated as ordinary losses to be offset against the income of the year in which they occur.

The bill was originally a measure to reduce excise taxes; and it passed the House on June 25 in that form—with provisions for a cut, from 15 per cent to 10 per cent, in the tax on amounts paid for transportation of persons, and a halving of the 3 per cent levy on amounts paid for transportation of property. All such provisions were eliminated when the bill was converted into a revenue-raising measure after the start of the Korean war.

The only remaining provision relating to the fare and freight taxes is a section which writes into the law a Bureau of Internal Revenue ruling to the effect that such taxes apply on all transportation of persons or property which begins and ends within the United States. The bureau's ruling was made on the question of whether the freight tax applied when freight bills for transportation within the United States were paid in Canada. (See *Railway Age* of July 22, page 48.)

Western Railways Answer Truckers' Tax Claims

To refute claims recently advanced by truck spokesmen to the effect that truck taxes are relatively as high, on a ton-mile basis, as railroad taxes, the Association of Western Railways has recently issued a special memorandum to railroad public relations officers.

"The truth is," the memorandum says, "that railroad taxes last year, plus their expenditures for roadway maintenance on a revenue ton-mile basis, exceeded the taxes per revenue ton-mile Humphries [A. K. Humphries, president of Pacific Intermountain Express] claims his company paid. When it is considered that motor common carrier revenues per ton-mile are over four times as great as those of the railroads, his comparison is utterly misleading and unfair. It then is clear that taxes take a much bigger bite out of average rail revenues per ton-mile than they do out of those of the motor carriers; and that, under fair comparison of taxes per ton-mile, those of the motor carriers ought to be at least four times as great as those of the railroads.

"The greater ton-mile revenues of the motor carriers are of course due to the fact that they do not transport heavy tonnage of low-rated traffic, as the railroads do. As the Interstate Commerce Commission Bureau of Economics pointed out in another of its recent reports the truckers received 38 per cent as much revenue as the railroads did, although they performed only one-tenth as great freight service volume, measured in ton-miles, as did the railroads."

The memorandum further pointed out that I.C.C. reports show that "motor carrier revenue per ton-mile has been between 3.13 and 4.47 times the revenue per rail ton-mile for the past several years. Contract carriers report ton-mile revenue of 3.13 times to 3.95 times that of the railroads and motor common carriers 4.25 to 4.47 times."

The memorandum was issued in reply to a statement by Mr. Humphries that his company pays 0.2 cents per ton-mile more in taxes than Class I railroads, and that the difference "is equal to the railroads' expenditures for maintenance of way."

Pacific Coast Shippers Ask 6- or 7-Day RR Week

Adoption of three resolutions directed toward improvement of the present freight-car shortage situation highlighted the 83rd regular meeting of the Pacific Coast Transportation Advisory Board, held at Los Angeles, Cal., on September 13 and 14. The three resolutions expressed board sentiment to the effect that:

Railroads in the entire country should immediately increase their work week from five days to six or seven days to relieve the backlog of cars awaiting repair; the present new car building program should be placed in full gear and continued despite any possible chance of a recession in business.

Railroads should be requested to install in conspicuous places in all freight cars permanent placards (or stencils) requesting receivers to unload cars promptly and to remove all dunnage and debris.

Empty cars should be pulled promptly from industrial spurs and team tracks and moved promptly through terminals; excess delays in terminals and over the road should be eliminated. Shippers should be requested to unload cars on Saturdays and holidays when an accumulation of loaded cars occurs.

Frederic B. Whitman, president of the Western Pacific, was the principal speaker at a luncheon sponsored by the Los Angeles Transportation Club. He gave an encouraging report on the freight-car situation, predicting that "by June next year conditions should be materially improved," and asserting that "from the present outlook all military requirements will be taken care of without serious injury to private freight business." Mr. Whitman added, however, that he expects assurance to be forthcoming from the government that the railways can get the steel necessary for their car program.

He did not venture any prediction as to when the present dispute between the railroads and the conductors' and trainmen's brotherhoods would be settled and operation returned to the companies. "There should," he said, "be a return to true collective bargaining. In situations such as this in the past, the emergency boards have handed down decisions requiring concessions by management but not giving way in full to the demands of the organizations. The unions then proceed from there, as it were, adding new demands. From a moral standpoint, it is my contention that both parties

should accept the decisions of the emergency boards."

E. W. Coughlin, manager of the Railroad Relations Section, Car Service Division, Association of American Railroads, told the board what the railroads are doing to increase the available car supply, and how shippers can help to obtain more intensive utilization of existing cars.

C.&N.W. Denied Suburban Fare Boost

A temporary suburban fare increase requested by the Chicago & North Western on an "immediate" basis has been denied by the Illinois Commerce Commission. The road had sought temporary increases of about 25 per cent on charges for weekly and monthly commutation tickets, and a 12.5 per cent increase on 10- and 25-ride bearer tickets, because of delays encountered in the hearings for permanent increases of like amounts. Petitions for the permanent fare increases were filed with the commission on January 20 and are still pending. With the temporary increases, the road had hoped to offset operating losses stated presently to be in the neighborhood of $3 million annually for the suburban service.

August Employment

Railroad employment increased 2.06 per cent—from 1,245,794 to 1,271,505—from mid-July to mid-August, and the mid-August total was 5.78 per cent above that of August, 1949, according to the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index of employment, based on the 1935-1939 average as 100, was 122 for August, compared with 119.5 for July, and 115.4 for August, 1949.

August employment was above that of the previous month in all groups, the increases ranging from 3.49 per cent for the train and engine service group to 0.26 per cent for the transportation group embracing yardmasters, switch-tenders and hostlers. As compared with August, 1949, employment was down in two groups—executives, officials and staff assistants, off 0.88 per cent, and maintenance of way and structures, off 0.58 per cent. Increases in the other five groups ranged from 16.41 per cent for maintenance of equipment and stores to 0.58 per cent for yardmasters, switch-tenders and hostlers.

Bus Industry Will Get Tires, Fuel, Say Suppliers

In the foreseeable future, America's motor bus operators will not be cut off from supplies of fuel and tires by military needs. "But there is going to be a shortage of rubber products," Robert S. Wilson, vice-president of the Goodyear Tire & Rubber Co., told the annual convention of the National Association of Motor Bus Operators held in Chicago September 13-14. The demand for jet fuel and for aviation gasoline might have an effect on the quality of both Diesel fuel and gasoline, said L. S. Wescoat, president of the Pure Oil Company, but these fuels, he added, will suffer no more than they did in the last war—if that much.

Preparedness for wartime traffic levels accounted for much of the two-day convention's program. The association's research division has estimated that the industry would be able to handle 29,500,000,000 passenger-miles annually at a 60 per cent load factor, but to do so, mileage of individual vehicles would have to be increased and many lesser services trimmed. The operators were urged to embark on a program of "preventive" maintenance and to survey all possible manpower reserves for employees, including women, students and handicapped adults. Because of present full employment, R. A. L. Bogan, executive vice-president of the Greyhound Corporation, warned that expansion to wartime traffic levels will be far more difficult than during World War II.

Status of Laramie Stockyards Company

Division 3 of the Interstate Commerce Commission has determined that the Laramie Stockyards Company, of Laramie, Wyo., is a common carrier by railroad subject to the Interstate Commerce Act insofar as it performs loading or unloading of livestock moving in interstate or foreign commerce. The commission's decision, in the No. 30456 proceeding, will have the effect of making the company subject to the Carriers Taxing Act and Railroad Retirement Act. It was made in response to a request of the Commissioner of Internal Revenue.

The loading and unloading services involved are performed by the stockyards company for Union Pacific shippers. The commission ordered the former to comply with the act by filing tariffs publishing its loading and unloading charges.

Asks Truck Drivers Be Held For Crossing Accidents

Truck drivers should be held accountable for highway grade crossing accidents in which they are involved. That is the conclusion of Union Pacific President A. E. Stoddard following a recent collision-derailment involving a local farm truck and a Cheyenne, Wyo.-Denver, Colo., mail and passenger train. In this particular case, Mr. Stoddard pointed out, drivers have an unobstructed view of the grade crossing, which is marked both at the site and by approach signs 300 ft. on either side. Members of the train crew, he said, reported that the locomotive had sounded its whistle on approaching the crossing, yet the driver, after pausing, drove directly in the train's path, causing derailment of the entire train and injuries to five passengers and one member of the crew.

"The percentage of accidents on the Union Pacific involving trucks is increasing," Mr. Stoddard declared. "The problem is one affecting the public welfare and it should be given special consideration by legislative and law enforcement bodies. We wouldn't permit a skeet club to stage a meet on Times Square, yet we never have taken adequate steps to protect from careless truck drivers the passengers and thousands of employees who travel on our railroads. It is indeed a rare instance when the driver of a truck involved in a collision with a train is held accountable for destruction of lives and property resulting from his carelessness. Responsibility must be fixed."

July Accident Statistics

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for July and this year's first seven months. The compilation, which is subject to revision, follows:

Item	Month of July 1950	Month of July 1949	7 months ended with July 1950	7 months ended with July 1949
Number of train accidents*	832	702	5,385	5,170
Number of accidents resulting in casualties	38	38	257	280
Number of casualties in train, train-service and non-train accidents:				
Trespassers:				
Killed	145	159	661	697
Injured	123	116	663	630
Passengers on trains				
(a) In train accidents*				
Killed	9	—	39	1
Injured	219	54	739	226
(b) In train-service accidents				
Killed	1	3	12	13
Injured	169	208	1,109	1,209
Travelers not on trains:				
Killed	—	—	3	3
Injured	47	67	441	438
Employees on duty:				
Killed	35	31	177	236
Injured	1,708	1,837	11,288	13,458
All other nontrespassers:**				
Killed	96	122	870	888
Injured	395	349	3,179	3,156
Total—All classes of persons:				
Killed	286	315	1,762	1,838
Injured	2,661	2,631	17,419	19,117

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of $275 or more to railway property. Only a minor part of the total accidents result in casualties to persons, as noted above.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Persons:				
Killed	92	114	809	815
Injured	242	203	2,209	2,075

July Truck Traffic

Motor carriers reporting to American Trucking Associations transported in July 4,139,239 tons of freight, a decrease of 3.2 per cent below the previous month's total of 4,277,036 tons, and an increase of 34.2 per cent above the 3,085,099 tons transported in July, 1949. The figures, according to the A.T.A., are based on comparable reports from 300 truckers in 40 states.

Departmental News begins on page 65

Taken at Youngstown, Ohio.

LIMA-HAMILTON SWITCHERS

...on the

ERIE

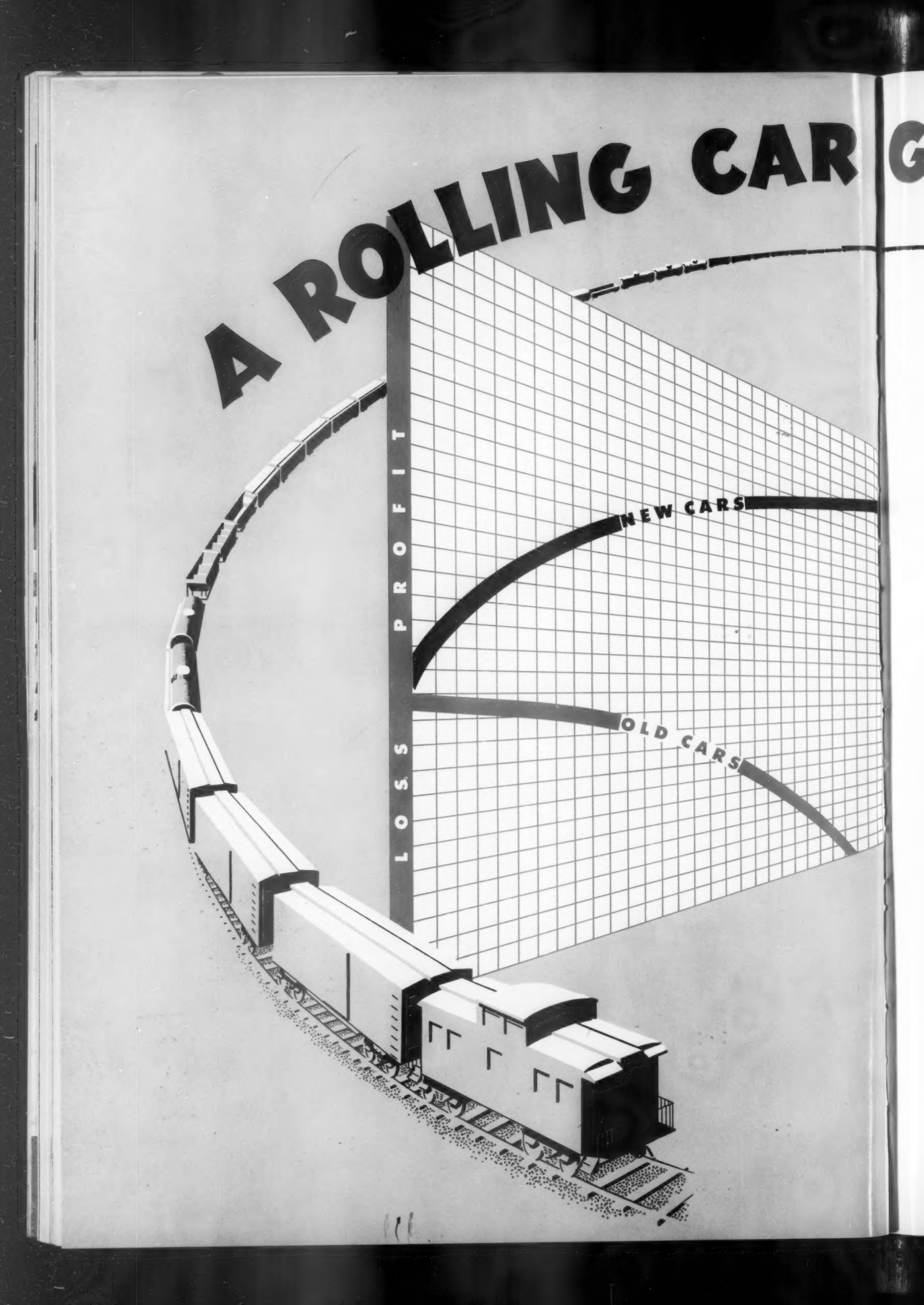
"Sixteen of our locomotives are Lima-Hamilton diesel-electrics. These switchers are performing satisfactorily and are producing savings in operations and maintenance . . . "

says the Erie

LIMA HAMILTON CORPORATION

LIMA-HAMILTON CORPORATION — **LIMA, OHIO**

Lima Locomotive Works Division


A ROLLING CAR G
LOSS PROFIT
NEW CARS
OLD CARS

R GATHERS NO LOSS

Profit in transportation comes from the "in-service" record of your rolling stock. A freight car carrying an "out-of-service" tab in the files is obviously building up an operating loss. To keep the balance in favor of profitable operations, your old car equipment should be replaced with new.

A.C.F. facts on freight cars. In buying new equipment, consider the importance of standardized design...assembly-line fabrication methods... operating performance...and lower maintenance costs offered by A.C.F.-built cars. A.C.F. car building facilities, strategically located, offer many cost-saving advantages that cannot be duplicated by any Railroad...nor is capital investment in shops and tooling beyond normal maintenance needs wise for the majority of Roads.

CHECK THESE A.C.F. ADVANTAGES AVAILABLE IN CAR EQUIPMENT

Assembly-line building technique
All-welded construction for rugged quality
Standardized design for lower maintenance cost
Dimensional accuracy for guaranteed interchangeability
Production speed for quick delivery
Operating dependability for profitable "in-service" life

Discuss your freight car needs with an A.C.F. representative. A practical purchase plan is available to facilitate the addition of new car equipment *now*. American Car and Foundry Company, New York, Chicago, St. Louis, Cleveland, Philadelphia, Washington, Pittsburgh, San Francisco.

CAR BUILDERS TO AMERICA'S RAILROADS

A.C.F.

The New General American-Evans *Damage Free* Fleet Uses

HOUDAILLE*

FRICTION SNUBBERS

When the General American-Evans Company says *Damage Free*, it means damage free. Trial runs have proven that these new cars will deliver ladings to their destination without damage or shifting.

The secrets of this remarkable performance are the sturdiness and rigidity of frame and body construction by General-American—the unusual efficiency and versatility of the Evans *Damage Free* Loader—and the soft riding characteristics of the Chrysler-designed Trucks which are built by Symington-Gould and equipped with Houdaille Friction Snubbers**. Each plays a part in making possible smoothest, high-speed operation ever built into box cars.

These new General American-Evans Company *Damage Free* Cars are now in production for lease to forward looking railroads. They promise entirely new standards in freight traffic with more intense utilization of equipment, greater speed in loading and unloading, and increased payloads on almost all types of cargo.

HOUDAILLE
Friction Snubber

A simplified railroad shock absorber adaptable for either vertical or lateral control. Self-compensating for wear. Can be maintained by present personnel without special skill or training.

***Manufactured by Houdaille-Hershey under license from Chrysler Corporation.*

HOUDAILLE-HERSHEY CORPORATION
HOUDE ENGINEERING DIVISION
BUFFALO 11, NEW YORK

*Say "Hoo-dye"

EQUIPMENT AND SUPPLIES

Southern Pacific "Sunset Limiteds"

Goodall Fabrics, Inc., New York, furnished window shades and seat coverings for the "Sunset Limiteds" as well as the companies listed in the description of the trains which appeared in the August 26 issue of *Railway Age*.

FREIGHT CARS

The **Chicago & North Western** has ordered 2,000 50-ton box cars from the Pullman-Standard Car Manufacturing Company.

The **Chicago, Indianapolis & Louisville** has ordered 100 50-ft. box cars from the General American Transportation Company. Inquiry for this equipment, purchase of which will be financed by an equipment trust, was reported in the *Railway Age* of August 5, page 73.

The **Great Northern** is constructing three 52-ft., 95-ton, well-type flat cars at its Superior, Wis., shops.

The **Great Northern** has ordered 250 41½-ft., 70-ton, flat-bottom gondola cars from the American Car & Foundry Co. Delivery is scheduled for the third quarter of 1951.

The **Lancaster & Chester** has ordered 20 50-ton box cars from the Pullman-Standard Car Manufacturing Company.

The **Pennsylvania** has ordered 2,750 gondola cars, 2,000 box cars and 250 flat cars costing, about $30,000,000, for delivery beginning in April, 1951. Arrangements have been made to finance the new cars through banks and insurance companies. These cars are in addition to 10,000 leased from the Equitable Life Assurance Society in May (See *Railway Age* of May 20) and to the 5,000 ordered in July (See *Railway Age* of August 5).

Of the gondola cars, 1,200 will be built by the American Car & Foundry Co., 800 by the Pullman-Standard Car Manufacturing Company, 500 by the General American Transportation Corporation, and 250 by the road's own shops. The Pressed Steel Car Company will construct 1,500 of the box cars and the remaining 500 box and 250 flat cars will be built in P.R.R. shops.

The **Southern** has ordered 2,000 50-ton box cars from the Pullman-Standard Car Manufacturing Company at a cost of more than $10,000,000. Deliveries are expected to begin in the third quarter of 1951. An inquiry by this road for 2,050 box cars was reported in *Railway Age* of August 12, page 74.

The **Spokane, Portland & Seattle** has ordered 200 41½-ft., 70-ton, gondola cars from the American Car & Foundry Co., for delivery in the third quarter of 1951.

LOCOMOTIVES

The **French North African Railway** delegation in this country has ordered six general purpose Diesel-electric locomotive units from the Baldwin Locomotive Works. Two 1,500-hp. sandproofed units were ordered for Moroccan railroads and four 1,600-hp. units for Algerian railroads.

The **Reading** has ordered 20 1,600-hp. Diesel-electric road-switching locomotive units costing about $3,000,000. Half the units will be built by the Baldwin Locomotive Works and half by the American Locomotive-General Electric Companies. Deliveries are expected early in 1951.

SIGNALING

The **Missouri Pacific** has ordered equipment from the General Railway Signal Company to install a type-K, class-M traffic control system from Poplar Bluff, Mo., to Williamsville, approximately 20 mi. The existing control machine at Poplar Bluff will be expanded by a 30-in. section equipped with 21 track lights and 17 levers for control of 7 switch machines, 1 switch lock, 1 crossing gate, and 29 signals. Included in this order are model 5D switch machines and types G and L color-light signals.

IRON & STEEL

The **Central of New Jersey** has ordered 5,800 gross tons of 131-lb. rail from the Bethlehem Steel Company.

ORGANIZATIONS

N.A.S.A.B. Program

The transportation outlook resulting from increased demands of both the armed forces and the civilian economy will highlight discussions at the annual meeting of the National Association of Shippers Advisory Boards at the Shirley-Savoy Hotel, Denver, Colo., on October 5. Representatives of industry, agriculture and finance from all parts of the United States will attend.

The principal speaker will be William T. Faricy, president of the Association of American Railroads, who will address a luncheon sponsored jointly by the shipper organization and the Denver Chamber of Commerce, the Traffic Club of Denver, the Denver Commercial Traffic Club, the Women's Traffic Club of Denver, the Interstate Commerce Commission Practitioners Club, and the World Trade Club of Denver. Wilson McCarthy, president of the Denver & Rio Grande Western, will be toastmaster at the luncheon.

Speakers at business sessions will include Gregory S. Prince, assistant general counsel of the A.A.R.; Arthur H. Gass, chairman of the A.A.R. Car Service Division; Charles Donley, of Charles Donley & Associates, Pittsburgh, Pa.; A. H. Schwietert, traffic director of the Chicago Association of Commerce & Industry, and George M. Cummins, traffic commissioner of the Davenport, Iowa, Chamber of Commerce. Among others who will appear on the program are Arthur P. Little, of Framingham, Mass., secretary of the shipper association and general traffic manager of the Dennison Manufacturing Company, and Frank H. Cross, of Minneapolis, Minn., vice-president of the shipper group and assistant director of traffic of General Mills.

Other highlights of the business sessions will be election of officers and action on resolutions pertaining to transportation matters. Frank J. Rebhan, president of the shipper organization and traffic manager of the American Crystal Sugar Company, will preside.

Directors of the association will meet at the same hotel on October 4.

C.D.O.A. Elects Officers

Under the leadership of this year's president, G. H. Wells, assistant to superintendent car department, Northern Pacific, the Car Department Officers' Association held its annual meeting September 18-20 at the LaSalle Hotel, Chicago, the total registration of railroad men in attendance being slightly less than 400.

At the concluding session, the following new officers were elected for 1951: President—J. A. Deppe, superintendent car department, Chicago, Milwaukee, St. Paul & Pacific, Milwaukee, Wis.; vice-presidents—W. N. Messimer, general superintendent of equipment, Merchants Despatch Transportation Corporation, Chicago; A. H. Keys, superintendent car department, Baltimore & Ohio, Baltimore, Md.; R. Schey, general superintendent car department, New York, Chicago & St. Louis, Cleveland, Ohio, and J. F. Likarish, master car builder, Great Northern, St. Paul, Minn.; and secretary-treasurer—F. H. Stremmel, assistant to secretary, Mechanical Division, Association of American Railroads, Chicago.

The **Stock Yards District Traffic Club** (Chicago) has announced the election as officers for the coming year of Richard Webber, general traffic manager, Spiegel, Inc., president; W. P. O'Brien, commercial agent, Illi-

nois Central, vice-president; Elmer Aird, traffic manager, United States Cold Storage Corporation, treasurer; and William J. Heerman, Central Manufacturing District agent for the Wabash, secretary. Fred T. Sharlau, superintendent of transportation for the Chicago Junction, was elected to serve a three-year term as director. Retiring President Norman Kirk is also a member of the board of directors.

Harry M. Moses, for the past 13 years president of the H. C. Frick Coke Company and associated companies (subsidiaries of the United States Steel Corporation), has been elected president of the newly organized **Bituminous Coal Operators Association.** The purpose of the new organization, which represents some 153 million tons of bituminous coal production, is to conduct contract negotiations between member companies and representatives of their employees and generally to promote stable and harmonious labor relations in the bituminous coal industry. On or about November 1 the association will establish headquarters in the World Center building, 16th and K sts., N. W., Washington, D. C. Joseph G. Chromis, for 25 years personal secretary and administrative assistant to Mr. Moses, will serve as secretary-treasurer.

The **United Association of Railway Veterans** will hold its annual meeting in the Hotel Statler, Buffalo, N. Y., on October 14-15.

The 22nd annual **Boston Conference on Distribution** will be held on October 16-17, at the Hotel Statler, Boston, Mass.

The 38th **National Safety Congress and Exposition** will be held October 16-20, at Chicago. Sessions on industrial safety are scheduled for the Stevens, Congress and Morrison Hotels; on traffic safety at the Congress Hotel; on commercial vehicle, farm and home safety at the LaSalle Hotel, and school sessions at the Morrison Hotel.

The **New Jersey Industrial Traffic League** will hold its 26th annual dinner on October 19, at 6:30 p.m., in the Robert Treat Hotel, Newark, N. J.

Under the sponsorship of the **Transportation Association of America,** Pittsburgh's first "freedom dinner" will be held at the William Penn Hotel on November 1. J. A. Appleton, vice-president of the Pennsylvania, is chairman of the sponsorship committee, which also includes Charles J. Graham, president, Pittsburgh & West Virginia; E. J. Halberg, president, Pittsburgh & Shawmut; F. W. Okie, president, Bessemer & Lake Erie and Union, and C. M. Yohe, vice-president, Pittsburgh & Lake Erie. A. N. Williams, president of the Westinghouse Air Brake Company, will preside at the dinner, which will be addressed by C. E. Wilson, president, General Motors Corporation; Frank R. Denton, vice-chairman, Mellon National Bank & Trust Co.; Dean William I. Myers, Cornell University, and J. M. Symes, vice-president — operations, Pennsylvania.

Gerald E. Franzen, formerly with the Minnesota State Railroad & Warehouse Commission, has been appointed assistant traffic director of the **Chicago Association of Commerce & Industry.**

CAR SERVICE

I.C.C. Service Order No. 866, which prescribes railroad operating regulations for the movement of freight cars, has been modified by Amendment No. 2, which added another exemption provision stipulating that the order shall not apply to cars of grain, including soy beans, held for state or federal inspection. The amendment became effective at 7 a.m. September 27.

Revised I.C.C. Service Order No. 867, which restricts the use of trap and ferry cars, has been modified by Amendment No. 1, which added another exemption provision stipulating that the order shall not apply to trap or ferry cars "loaded to visible capacity." The amendment became effective at 12:01 a.m. September 27.

SUPPLY TRADE

M. George Bastianello has been appointed assistant sales manager of the business service department of **Remington Rand Inc.** Mr. Bastianello, who joined the company recently, formerly was with the New York office of the Statistical Tabulating Company.

Five senior executive appointments in the manufacturing and sales management of the Philadelphia division of the **Yale & Towne Manufacturing Co.** have been made, as follows: **James P. Kinney,** former partner in Gordon & Kinney, Inc., of Detroit, Mich., has been appointed general sales manager, to succeed **Samuel W. Gibb,** resigned; **James A. Shellenberger,** formerly assistant to vice-president—marketing of General Foods Corporation, has been appointed director of advertising, publicity and market research, succeeding **James S. McCullough,** resigned; **John T. McCarley,** associated with Yale & Towne since 1936 in various engineering and factory management capacities, has been appointed manager of production, a newly created position; **C. Eugene Moore,** formerly assistant to plant manager of the Electro-Motive Division, General Motors Corporation, has been appointed works manager, a new post responsible for all manufacturing operations and maintenance of plant and equipment; and **Bruno A. Moski,** formerly resident field engineer at the Philadelphia division of Yale & Towne representing the George H. Elliott Company, consulting engineering firm, has been appointed chief industrial engineer, a new post responsible for all plant industrial engineering functions.

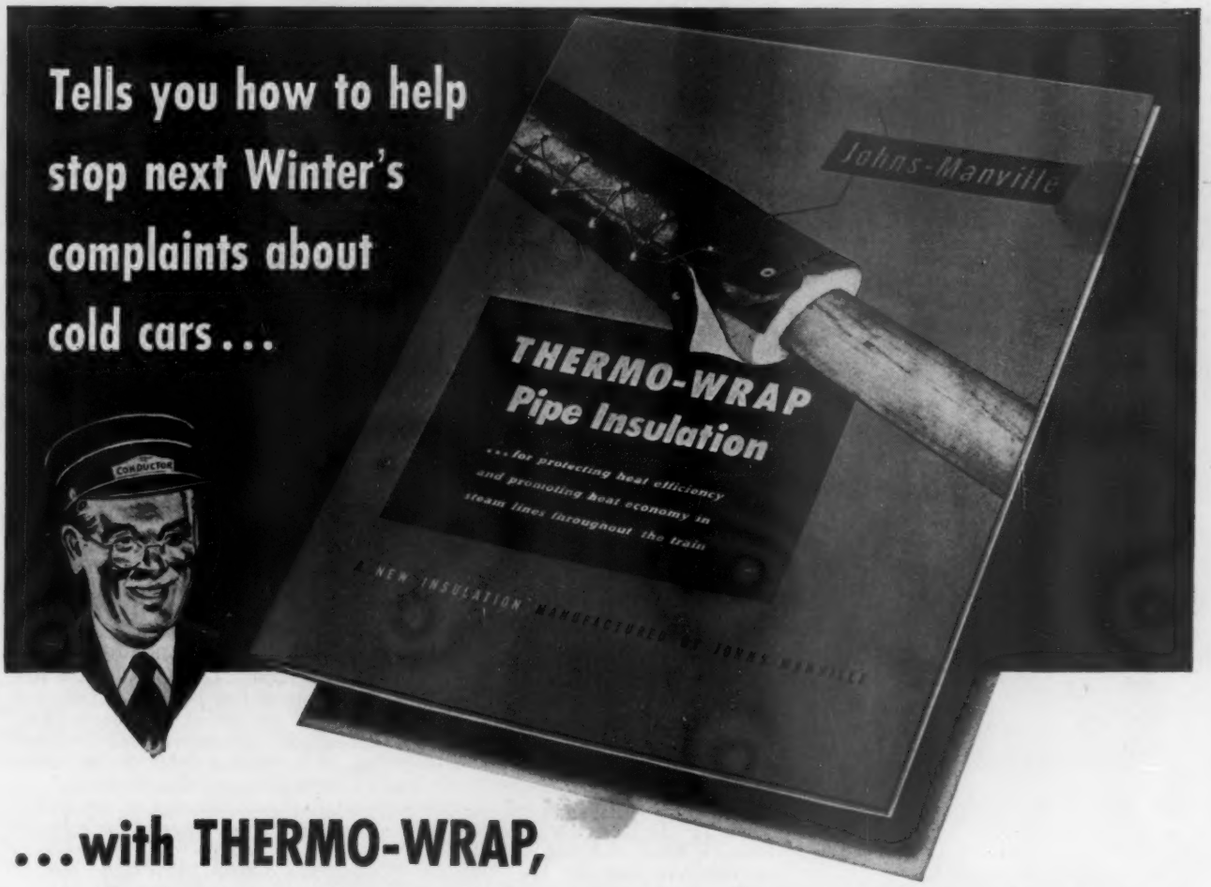
D. G. Blattner has been appointed special representative in engine application for the eastern sales division of the **Caterpillar Tractor Company,** to succeed **M. A. Galvin,** resigned. Mr. Blattner formerly was a special representative in the sales development division of the general sales department.

R. K. Mangan, executive vice-president of the **Buda Company** for the past 12 years, has been elected president, to succeed the late **J. S. Dempesy,** who died on August 17. **K. E. Fitzpatrick,** secretary, has been appointed to succeed Mr. Dempesy as treasurer. After receiving his mechanical engineering degree from the University of Illinois in 1917, Mr. Mangan joined the Buda Company as a mechanical engineering apprentice, and has held numerous positions with the company. He has traveled widely for Buda in foreign countries and in the United States, and during World War II directed a number of varied operations.

R. K. Mangan

Mr. Fitzpatrick joined Buda in 1939 as comptroller. He has been serving as secretary of the company for 10 years.

Burton C. Sears, formerly sales engineer for the **Cummins Engine Company,** Columbus, Ind., has been appointed assistant regional manager for the southeastern region, with headquarters at 800 Ponce deLeon avenue, N.E., Atlanta, Ga. **Edward Daley,** formerly San Francisco, Cal., district manager for the Marion Power &


Tells you how to help stop next Winter's complaints about cold cars...
Johns-Manville
THERMO-WRAP
Pipe Insulation
... for protecting heat efficiency and promoting heat economy in steam lines throughout the train
A NEW INSULATION MANUFACTURED BY JOHNS-MANVILLE
CONDUCTOR

...with THERMO-WRAP, the new J-M Pipe Insulation for steam train lines

May we send you a copy of the folder shown above? It gives the facts about a new Johns-Manville insulation that's designed to help you solve an old problem —how to make steam heat available throughout the length of the train.

Thermo-Wrap owes its exceptional efficiency to an insulating medium of twisted asbestos fibers held together by asbestos yarn and enclosed in a woven jacket. Over its entire outside surface, this jacket is coated with a tough, durable, fire-resistant waterproof coating to assure maximum protection against abrasion, mechanical abuse and moisture.

Thermo-Wrap is economical to use, too, because it can be applied quickly and easily on straight or curved pipe . . . because it fits tight and stays tight in service . . . and because it stands up under the impact of rain, sleet, snow and flying ballast. In the most rugged service, Thermo-Wrap keeps heat where you want it, *inside* the car-heating pipes.

For the complete story about Thermo-Wrap, and how it can help you stop next winter's complaints about cold cars, just fill in the coupon below.

Get the facts about THERMO-TAPE, too

If you're looking for an insulation to overcome the problem of wrapping steam and hot water pipes where curvatures are sharp or clearances small . . . you'll want to know about Thermo-Tape, another new J-M Insulation. The coupon below will bring you full details.

Johns-Manville
92 YEARS OF SERVICE TO TRANSPORTATION

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Johns-Manville
Box 290, New York 16, N. Y.
Send me the folders I have checked below:

☐ THERMO-WRAP Pipe Insulation (IN-132A)
☐ THERMO-TAPE Pipe Insulation (IN-131A)

Name_____

Company_____

Address_____

City_____ State_____

Shovel Co., has been appointed assistant regional manager for Cummins, with headquarters at 411 West Fifth street, Los Angeles, Cal.

J. R. Munro, general factory manager of the **Caterpillar Tractor Company,** Peoria, Ill., has been appointed to the newly created position of director of manufacturing. **C. A. Woodley,** assistant general factory manager, succeeds Mr. Munro. Appointed assistant general factory managers are **W. L. Naumann,** formerly production manager, who will supervise production, planning and tooling, metallurgy and heat treat activities, and **Lloyd J. Ely,** heretofore manager of the Diesel engine factory, who will direct activities in the foundry, engine factory, tractor factory and steel fabrication factory.

J. R. Munro

Mr. Munro was born within a few blocks of the company's San Leandro (Cal.) plant. He joined Caterpillar in 1918 as an apprentice, and in 1931 was transferred to Peoria. He became assistant superintendent of engine and tractor assembly in 1933, and the following year was appointed superintendent of Diesel engine assembly and testing. Mr. Munro was made factory manager of the entire tractor and engine division in 1936, and has served as general factory manager since February, 1942.

C. A. Woodley

Mr. Woodley joined Caterpillar in 1926, also as an apprentice. He was promoted to machine shop foreman in 1934, and in January, 1945, became assistant general factory manager.

Mr. Naumann was graduated from the Caterpillar apprentice school in 1933, and was appointed assistant factory manager in 1942. He was advanced to factory manager in January, 1945.

Associated with Caterpillar since 1916, when he served in the tool delivery section, Mr. Ely served as general foreman of the machine shops, assistant superintendent of buildings and assistant factory manager of road machinery. In 1942 he was appointed works manager of the Caterpillar Military Engine Company at Decatur, Ill., and in 1945 spent several months with the Corps of Engineers in Europe. Mr. Ely was appointed manager of Caterpillar's new Diesel engine factory when it began operation in 1947.

CONSTRUCTION

Alaska.—Construction of electric generating facilities at Anchorage, Alaska, is being undertaken jointly by this company and by the Chugach Electric Association, Inc., of Anchorage. In connection with this project contracts have been awarded for power generation equipment (Diesel-electric) installation, jointly to J. C. Boespflug Construction Company and Peter Kiewit Sons' Company of Seattle, Wash., at a cost of $294,890; for furnishing and installing three 75,000-lb.-per-hr. steam generating units, to P. S. Lord Mechanical Contractors of Portland, Ore., at a cost of $575,328; and for furnishing three 3,000-kw. steam turbine generator units and accessories, to the Worthington Pump & Machinery Corp., Harrison, N. J., at a cost of $324,600. In addition, a contract has been awarded to Harold D. Paddock of Anchorage for cleaning and repainting three bridges at a cost of $76,000.

Central of New Jersey.—This road has awarded the following contracts at the indicated estimated costs: To O'Brien Brothers, Inc., New York, for dredging operations at Jersey City, N. J. ($45,000); to Ingersoll-Rand Company, Newark, N. J., for air compressors in a project to replace steam power with electric power at the Elizabethport, N. J., shops ($72,152); and to the Penetryn System, Albany, N. Y., for repairing foundations of ferry house at Jersey City. The road also will extensively remodel its passenger stations at Roselle, N. J., and Roselle Park as soon as necessary materials can be assembled.

Southern Pacific.—The following projects have recently been authorized and are presently planned to be undertaken by company forces, at the indicated estimated costs: Respacing and conversion to searchlight type of signals between Tangent, Ore., and Salem, between Carrizozo, N. M., and Tecolote, between Lee, Ariz., and State Line, and between Tempe and Pichacho, ($250,000); conversion of interlocking tower No. 6 at El Paso, Tex., from manual to electric operation in connection with grade separation project at that point ($62,100); fire prevention measures at Oakland Pier, Cal., including paving of certain areas presently planked and relocation of certain small buildings ($22,000); 2,522-ft. extension of siding at Olga, Ariz., to hold 100 cars ($26,560); extension of siding at Luzena, Ariz., with simultaneous retirement of sidings at Alrich and Cholla ($52,570); construction of car cleaning yard with 5,795 ft. of track at Eugene, Ore., ($38,640); change from open deck to ballast deck of the 541-ft. steel viaduct over Arroyo Hondo at Lento, Cal. ($43,045); identical modifications to an 811-ft. steel viaduct at Gaviota, Cal. ($60,395), a 260-ft. viaduct at Red Bluff ($21,648), and a 581-ft. viaduct at Lakehead ($40,887); and enlargement and retimbering of an additional 500 ft. in Tunnel No. 6 at Cuesta, Cal.-Thyle. A contract has been awarded to the Griffith Company of Los Angeles for subgrading and paving of roadway in Taylor yard, Los Angeles. This latter work is part of the construction of the retarder yard described in *Railway Age* of July 9, 1949, page 147.

ABANDONMENTS

Pennsylvania-Reading Seashore.—The I.C.C. has dismissed this road's application for authority to abandon its Stone Harbor branch, 3.7 mi., between Cape May Court House, N. J., and Stone Harbor. The road had requested the dismissal.

FINANCIAL

Akron, Canton & Youngstown.—*Dividend Change.*—This road has declared a dividend of $4 a share on its common stock, payable October 2 to holders of record September 20. Previous payment was 50 cents a share on April 1.

Atchison, Topeka & Santa Fe.—*Increases Dividend.*—This road has declared a quarterly dividend of $2, and an extra of $2, on its common stock, both payable December 1 to

LOWER COST LEVEL FOR L.C.L.

Handling L. C. L. is an expensive operation for railroads. Wide diversity in shipment size, nature and destination makes it so.

But whether handling L. C. L. or stores or back shop materials, a lower cost level is what you want. Greater man-hour productivity is the answer. And, Yale Material Handling Machinery helps you attain the efficiency necessary to reduce costs and to raise your profit level. For Yale Trucks, Hoists and Scales put new zip and speed into all lifting, moving, stacking and weighing. They conserve human effort; safeguard workers and materials as only the absence of frequent rehandling can do.

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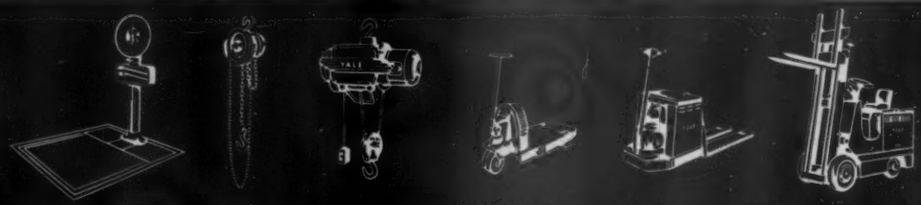
L-48

YALE

TOOLS THAT KEEP INDUSTRY "ON THE MOVE"



SCALES — Industrial • HOISTS — Hand and Electric • TRUCKS — Hand Lift · · · Electric · · · Gasoline · · · Diesel

stockholders of record October 27. Previous quarterly payments were $1.50 a share.

Southern.—*New Director.*—Robert W. Fleming, president of the Riggs National Bank, Washington, D. C., has been elected to this road's board of directors to succeed the late Guy Cary.

New Securities

Division 4 of the I.C.C. has **authorized:**

PENNSYLVANIA.—To assume liability for $10,005,000 of series Z equipment trust certificates, the second and final installment of a $20,115,000 issue. The entire issue will finance in part 91 Diesel-electric locomotives, 19 passenger-train cars, and 1,700 freight cars, costing an estimated $25,145,500. (See Railway Age of April 1, page 76.) The present certificates are to be applied against approximately $12,598,250 of the new equipment, which will be delivered after October 1. The certificates will be dated April 1, and will mature in 15 annual installments of $667,000 each, beginning April 1, 1951. Division 4's report approved a selling price of 99.03 with interest at 2½ per cent—the bid of Halsey, Stuart & Co. and 17 associates—which will make the average annual cost of the proceeds approximately 2.67 per cent. The certificates were reoffered to the public at prices yielding from 1.6 to 2.75 per cent, according to maturity.

Security Price Averages

	Sept. 26	Last week	Last year
Average price of 20 representative railway stocks.	47.43	48.52	37.86
Average price of 20 representative railway bonds.	95.73	95.72	85.95

Dividends Declared

Akron, Canton & Youngstown.—common, $4, payable October 1 to holders of record September 20; 5% preferred, $2.50, semiannual, payable October 1 to holders of record September 15.

Atchison, Topeka & Santa Fe.—common, $2, quarterly; extra $2, both payable December 1 to holders of record October 27.

Carolina, Clinchfield & Ohio.—$1.25, quarterly, payable October 20 to holders of record October 10.

Cleveland, Cincinnati, Chicago & St. Louis.—5% preferred, $1.25, quarterly, payable October 31 to holders of record October 4.

Lake Superior & Ishpeming.—25¢, payable October 10 to holders of record September 29.

Piedmont & Northern.—75¢, payable October 20 to holders of record October 5.

Wheeling & Lake Erie.—common (payable to stockholders other than the New York, Chicago & St. Louis), $1.4375; 4% prior lien, $1, both payable November 1 to holders of record October 20.

Investment Publications

[The surveys listed herein are, for the most part, prepared by financial houses for the information of their customers. Knowing that many such surveys contain valuable information, Railway Age lists them as a service to its readers, but assumes no responsibility for facts or opinions which they may contain bearing upon the attractiveness of specific securities.]

Bache & Co., 36 Wall st., New York 5.

Erie Railroad; A Low-Priced Rail Speculation. August 21.

H. Hentz & Co., 60 Beaver st., New York 4.

Freight Car and Locomotive Builders. September 18.

Hirsch & Co., 25 Broad st., New York 4.

A Review of Business and Financial Conditions: Oils — Rails. September.

Kerr & Co., General Petroleum bldg., Los Angeles, Cal.

Union Pacific Railroad Co. No. 921, September 18.

Vilas & Hickey, 49 Wall st., New York 5.

Eastern Railroad Common Stocks. August 29.

Nashville, Chattanooga & St. Louis. September 22.

Pennsylvania Railroad. September 25.

Railroad Stocks and Bonds. September 15.

St. Louis-San Francisco. September 1.

RAILWAY OFFICERS

EXECUTIVE

J. Reginald McMillan, general superintendent of the CANADIAN NATIONAL at Winnipeg, Man., has been promoted to vice-president, Western region, to succeed **J. P. Johnson,** who is retiring because of ill health. **D. V. Gonder,** general manager of the Western region at Winnipeg, has been appointed assistant vice-president at Montreal, Que., where he will undertake special mechanical studies on the system.

John R. Ekholm, who has been promoted to assistant to president of the CHICAGO & WESTERN INDIANA and the BELT OF CHICAGO, at Chicago, as reported in the *Railway Age* of July 15, was born on August 23, 1907, at Two Harbors, Minn. Mr. Ekholm graduated from Central High School, Minneapolis, Minn., and subsequently attended the University of Minnesota.

John R. Ekholm

Northwestern University and the University of Chicago, completing graduate work in business administration at Chicago. He entered railroad service in September, 1925, with the Great Northern at Minneapolis as a transportation clerk. In November, 1925, he went with the Minneapolis, St. Paul & Sault Ste. Marie at Minneapolis, and served with that road until 1932 as secretary to general superintendent and secretary to vice-president and general manager. In July, 1932, Mr. Ekholm joined the C. & W. I and the Belt of Chicago, at Chicago, as secretary to president and general manager. From 1936 to 1948, he served as chief clerk in the office of the president and general manager, becoming chief clerk in the office of the president in April, 1948, the position he held prior to his recent promotion.

Leo M. Riley, whose promotion to assistant to vice-president, Lines West, of the NEW YORK CENTRAL SYSTEM, with headquarters at Chicago, was reported in the *Railway Age* of August 26, was born in Burnley, England, on August 19, 1903, and attended the parochial grade and public high schools at Kokomo, Ind. He began railroading in July, 1923, with the Cleveland, Cincinnati, Chicago & St. Louis (part of the N. Y. C. System). Mr. Riley subsequently served successively as yard clerk, terminal dispatcher, assistant yardmaster and yard-

Leo M. Riley

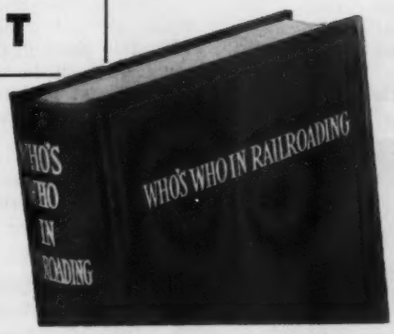
master at Indianapolis, Ind., until October, 1942, when he was transferred to New York as supervising safety agent. In August, 1943, he returned to Indianapolis as yardmaster, and in September, 1944, went to Lindale, Ohio, as assistant trainmaster. From August, 1946, to May, 1948, he served as trainmaster at East St. Louis, Ill., later becoming trainmaster at the Indianapolis terminal. Mr. Riley was appointed assistant to assistant general manager, N. Y. C. Lines West, at Cleveland, Ohio, in January of this year. He held this position until his present promotion.

FINANCIAL, LEGAL & ACCOUNTING

John E. Harmon, assistant to the auditor of disbursements of the LOUISVILLE & NASHVILLE, has been appointed to the newly-created positions of assistant auditor of disbursements, with headquarters at Louisville, Ky.

GOING FAST

NEW
12th
EDITION



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In Oakite Steam-Detergent cleaning you have this proved, successful combination of elements immediately available. The Oakite Steam Gun applies to surfaces an effective Oakite detergent solution that is safe, odorless, fast-acting. Cleaner surfaces result. You are able to handle MORE work in SHORTER time. And you save money. Let us prove this to you in your own shops on any tough job you select. Simply ask us to have our Oakite Technical Service Representative in your locality call. There is no cost, no obligation.

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OAKITE
RAILWAY DIVISION SERVICE

F. D. Tilton, assistant general claim agent of the NORTHERN PACIFIC at St. Paul, Minn., will retire on October 1 after 46 years of railroad service. **E. F. Gaskill,** district claim agent at St. Paul, will succeed Mr. Tilton.

James L. Homire, who has been advanced to general solicitor of the ST. LOUIS-SAN FRANCISCO, with headquarters at St. Louis, Mo., as reported by *Railway Age* on September 2, was born in Louisville, Ky., November 19, 1901. Mr. Homire attended the University of Chicago, receiving his Ph. B. degree there in 1923 and J. D. in 1926. He started his railroad career in May, 1926, with the New York Central at Chicago, serving with that road at New York from 1928 to 1933. Between 1937

James L. Homire

and 1941 he held the positions of co-trustee and counsel for the trustees of the Duluth, South Shore & Atlantic. Subsequently he was employed as special counsel and chief railroad counsel for the Reconstruction Finance Corporation at Washington, D. C., until 1945, when he went with the law firm of Davis, Polk, Wardwell, Sunderland & Kiendl of New York. Mr. Homire joined the Frisco in 1949 as general attorney at St. Louis.

OPERATING

R. R. Robinson, assistant superintendent, Shasta division, of the SOUTHERN PACIFIC, at Dunsmuir, Cal., has been transferred in that capacity to the Coast division, with headquarters at San Francisco, Cal. He succeeds **J. C. Slade,** who has in turn been transferred to Dunsmuir. **T. A. Purcell,** assistant superintendent, San Joaquin division, at Bakersfield, Cal., has been transferred in the same position to the Los Angeles division, with headquarters at Beaumont, Cal., and is succeeded by **M. A. McIntyre,** trainmaster at Fresno, Cal.

As announced by *Railway Age* on September 9, **John J. O'Toole** has been appointed assistant general manager, Eastern Lines, of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, with headquarters at Chicago. Mr. O'Toole was born in Chicago on September 28, 1897, and attended night classes at DePaul Academy and DePaul University in that city. He started with the Milwaukee in November, 1912, as a switchtender, and subsequently held

John J. O'Toole

various positions until his appointment in 1936 as trainmaster at Minneapolis, Minn. From 1938 to 1939 he served as assistant superintendent at Wausau, Wis., and from 1939 to 1946 held the same post at Milwaukee. Later he was advanced to superintendent of the Twin City Terminals at Minneapolis, becoming general superintendent of terminals at Chicago in August, 1947. Mr. O'Toole held the latter post prior to his recent appointment.

W. H. Kendall, assistant to president of the ATLANTIC COAST LINE at Wilmington, N. C., has been elected general manager of the CLINCHFIELD at Erwin, Tenn., succeeding **C. D. Moss,** who asked to be relieved of his duties because of ill health, after 41 years with the Clinchfield and its predecessor companies. A biography and photograph of Mr. Kendall were published in the *Railway Age* of February 4, page 287.

H. B. Bassett has been appointed assistant general superintendent transportation of the GREAT NORTHERN, with headquarters at Seattle, Wash.

J. P. Spears, trainmaster of the ATCHISON, TOPEKA & SANTA FE at Pueblo, Colo., has been transferred to the Pecos division, at Clovis, N. M. He is succeeded by **C. B. Kurtz,** trainmaster, with headquarters at La Junta, Colo. **W. R. Henry,** trainmaster at Dodge City, Kan., replaces Mr. Kurtz.

James F. O'Dore, who has been promoted to superintendent of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, at Spokane, Wash., as reported in the *Railway Age* of August 26, was born on November 25, 1897, in Butte, Mont. He entered the service of the Milwaukee in September, 1913, in the track department, and later served in the signal department on the Rocky Mountain and Idaho-Coast divisions. In 1926 he was advanced to supervisor, telegraph and signals, on the Rocky Mountain division, and in 1938 became trainmaster on the same division. After holding that position on various divisions, in 1946 he was made assistant superintendent on the Rocky Mountain division. Mr. O'Dore was transferred to the Coast division in 1948, where he was serving as assistant superintendent at the time of his promotion.

As *Railway Age* reported on July 29, **W. C. Smith** has been promoted to superintendent of the NORTHERN PACIFIC at Duluth, Minn. Mr. Smith gained his first railroad experience in Mexico and Canada before entering N. P. service in 1917 as a stenographer to the general superintendent. After a period in train service he worked in passenger traffic at Portland, Ore., from 1925 to 1937. Subsequently he

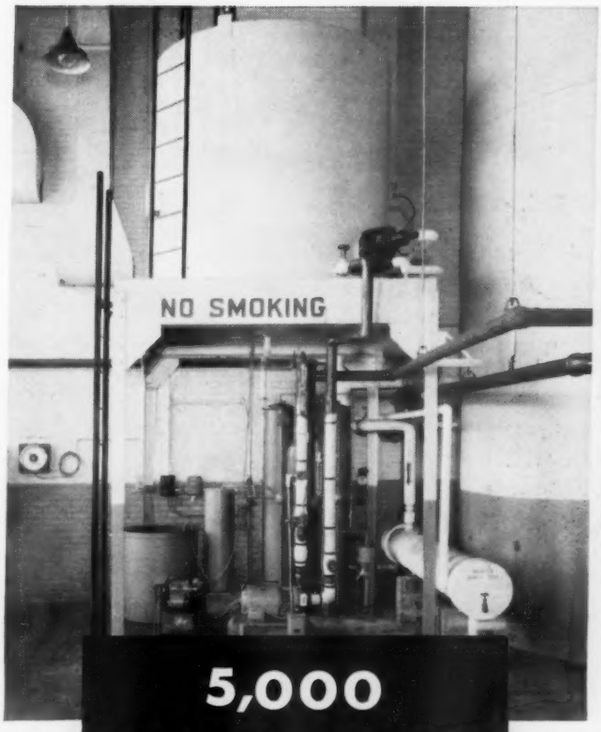
W. C. Smith

returned to the operating department and held positions successively as assistant trainmaster at Spokane, Wash., and trainmaster at Billings, Mont., Dickinson, N. D., and Missoula, Mont. As a lieutenant colonel in World War II, Mr. Smith served with an American railway operating battalion in Iran. In 1947 he was appointed assistant superintendent of the N.P. at Billings, the post he held prior to his latest promotion.

C. R. Lapeza, office engineer of the ATLANTIC COAST LINE, has been appointed assistant to general manager, with headquarters as before at Wilmington, N. C.

J. Allen Malcolm, manager of service, passenger department, CHESAPEAKE & OHIO, at Cleveland, Ohio, will now hold the title of general superintendent, dining service, at Cincinnati, Ohio, with continued jurisdiction over the diners of both Chesapeake and Pere Marquette districts. Mr. Malcolm was born at Milford, Conn., 37 years ago and joined the C.&O. in October, 1945, as special

(Continued on page 77)



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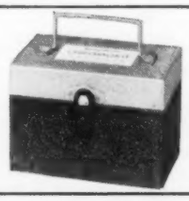
A Dearborn De-Ionizing system will provide the mineral-free water you need at less than 10 percent the cost of distilled water.

This mineral-free water, when conditioned with Dearborn formula 517, will provide proper Diesel cooling . . . eliminate mechanical failure of liners, heads and blocks caused by corrosion, scale and sludge deposits. This combination will protect cooling systems of engine-driven auxiliary generators and radiators of trucks, buses, scrapers, graders, caterpillars. Dearborn De-Ionizing systems will also produce mineral-free water for storage batteries and adequate supplies of scale-free, non-corrosive water for Diesel steam generators.

A Dearborn engineer will discuss a De-Ionizing system to meet the requirements of your operation. The only information required is: (1) Analysis (or sample) of raw water; (2) quantity and quality of mineral-free water required; (3) available space for equipment; (4) raw water pressure and size of supply line; (5) available power characteristics.



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It provides a fast, simple, accurate and economical way to determine the chromate content of your Diesel cooling water. Only $7.50 each.

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B&O
WITH THE NATION
BALT

B & O BUYS TWO RDC's

After testing in revenue service over its own right-of-way, the Baltimore & Ohio has ordered two RDC's, the self-propelled, all-stainless steel Budd rail diesel car.

They will operate as a unit in commuter service between Brunswick, Maryland and Washington, and between Washington and Baltimore. Their prospective schedule starts them off at 5:35 in the morning, and keeps them going until 7:20 in the evening.

The B & O is the sixth railroad to purchase RDC's this year, and offers another interesting assignment to this versatile, all-purpose car.

The Budd Company, Philadelphia 32

Budd

MISSOURI PACIFIC LINES

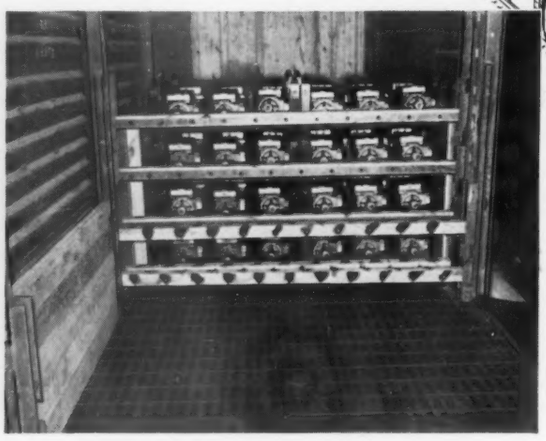
keep boxcars rolling L·O·N·G·E·R

with N·S·F

Actual photographs of car interiors show how wooden floors break down and NAILABLE STEEL FLOORING stands up under concentrated loads

Useless After 90 Days!

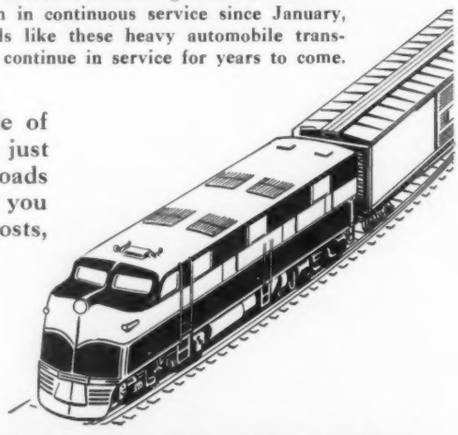
Missouri Pacific finds that wooden-floored cars look like this after 3 or 4 months. Virtually useless, they go on the rip track for repairs—are lost for days.



Not a Minute Lost in 18 Months

The interior of a Missouri Pacific freight car floored with N-S-F. It has been in continuous service since January, 1949, carrying loads like these heavy automobile transmissions—and will continue in service for years to come.

With the structural strength of NAILABLE STEEL FLOORING, made of corrosion- and abrasion-resistant N-A-X HIGH-TENSILE steel, there just aren't any breakthroughs—even when subjected to concentrated loads imposed by modern mechanical equipment or lading. With N-S-F you avoid damage and loss claims, reduce maintenance and repair costs, keep your freight cars in service longer.



PATENTS N·S·F HOLDS BLOCKING BETTER PENDING

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Further information on NAILABLE STEEL FLOORING is available from sales representatives in Detroit, Chicago, Philadelphia, St. Louis, Atlanta, San Francisco

GREAT LAKES STEEL CORPORATION

Steel Floor Division, Ecorse, Detroit 29, Michigan

NATIONAL STEEL CORPORATION

NATIONAL STEEL

(Continued from page 72)
representative in the office of the president, transferring to the office of vice-president—traffic in October, 1947. He became manager of service in February, 1949.

Robert O. Bodell, trainmaster of the ILLINOIS CENTRAL at the road's Markham yard, has been advanced to assistant superintendent freight service there. **R. K. Osterdock,** assistant trainmaster at Champaign, Ill., has been promoted to trainmaster at Palestine, Ill.

Thomas Vern Sherrier, who has been promoted to superintendent of the CHICAGO, INDIANAPOLIS & LOUISVILLE, with headquarters at Lafayette, Ind., as reported by *Railway Age* on September 9, was born on June 17. 1897, in Chicago. He began his career with the Monon in February, 1915, as a machinist helper and apprentice, and has served with that road continuously except from October, 1917, to May,

Thomas Vern Sherrier

1919, when he was in the U. S. Army, serving overseas from June, 1918, to May, 1919. Following service as fireman, engineer and road foreman of engines, in 1947 he was advanced to trainmaster at Lafayette. Mr. Sherrier became assistant superintendent of the Northern division in January, 1949, in which capacity he remained until his latest promotion.

TRAFFIC

H. I. Saunders, district passenger agent of the CANADIAN PACIFIC at St. John, N. B., has been transferred to Toronto, Ont., succeeding **H. F. Nelson,** who has been transferred to Regina, Sask. Mr. Nelson replaces **J. C. Pike,** who has retired on pension after 41 years of service. **Harry Newton,** passenger traffic representative at Vancouver, B. C., has been appointed district passenger agent at St. John, succeeding Mr. Saunders.

J. A. Fyfe, assistant coal traffic manager of the MISSOURI PACIFIC LINES at St. Louis, Mo., has been promoted to general freight agent at that point, succeeding **A. B. Strunk,** who has been elected a member of the standing rate committee of the Southwestern Freight Bureau. **C. W. Michel** succeeds Mr. Fyfe, and **R. L. Brown,** assistant general freight agent at St. Louis, becomes general freight agent there.

Leo P. LaMarsh has been appointed assistant general freight and passenger agent of the ILLINOIS TERMINAL, at St. Louis, Mo.

Robert L. Crawford, Jr., district freight agent of the SOUTHERN at New York, has succeeded to the duties of **Herbert E. Wilson, Jr.,** who is entering military service. **Denver L. Lacey,** also district freight agent at New York, succeeds to the duties of Mr. Crawford. **George E. Green, Jr.,** commercial agent, has been appointed district freight agent, with headquarters as before at New York, succeeding Mr. Lacey.

W. R. Eilers, chief clerk in the ST. LOUIS-SAN FRANCISCO's foreign freight department, has been appointed foreign freight agent, with headquarters at St. Louis, Mo.

Jack W. Tumlin, former general freight agent of the NORFOLK SOUTHERN at New York, has been appointed traffic manager of the Georgia Ports Authority at Atlanta, Ga. Mr. Tumlin was born at Columbus, Ga., on July 24, 1896, and entered railroad service in 1910 as a clerk and call boy with the Central of Georgia. He was with the Pittsburgh & Lake Erie from 1912 to 1918, when he joined the United States Army. Mr. Tumlin was traveling freight agent of the Western Maryland at Pittsburgh, Pa., from 1920 to 1926, and then served until 1937 in the same capacity with the Virginian at Chicago. He was then city agent at Cincinnati, Ohio, and general agent at Detroit, Mich., successively, of the latter road. From 1943 to 1946 he was again in the Army, serving in Africa and Italy, returning to the Virginian as general agent at Atlanta. He joined the N.S. in July, 1947, as general freight agent.

ENGINEERING & SIGNALING

Edward O. Reedy, assistant engineer of the LOUISVILLE & NASHVILLE at Latonia, Ky., has been transferred in the same capacity to the miscellaneous department of the chief engineer's office at Louisville, Ky. **Joseph C. Overmann,** draftsman in the miscellaneous department, has succeeded Mr. Reedy.

C. A. Colpitts, district engineer of the British Columbia district of the CANADIAN PACIFIC at Vancouver, B. C., has been appointed engineer of track of the system at Montreal, Que., succeeding **R. A. Emerson,** recently appointed assistant chief engineer. **C. K. Holden,** special engineer, has been appointed district engineer of the Manitoba district, with headquarters as before at Winnipeg, Man., succeeding **T. W. Creighton,** who has been transferred to Vancouver, to replace Mr. Colpitts.

W. E. Free, roadmaster of the ATLANTIC COAST LINE at Albany, Ga., has been appointed office engineer in the office of the chief engineer at Wilmington, N. C.

Fred A. Tegeler, Jr., who has been appointed signal engineer of the WESTERN PACIFIC, with headquarters at San Francisco, Cal., as reported by *Railway Age* on August 26, was born on May 30, 1918, at Brookfield, Mo., and received his early education at St. Joseph, Mo. Mr. Tegeler later attended St. Joseph Junior College and in 1940 graduated from Kansas University in electrical engineering. During the summers of 1938 and 1939, he was employed on the Chicago, Burlington & Quincy in the signal department and on construction. In June, 1940, he be-

Fred A. Tegeler, Jr.

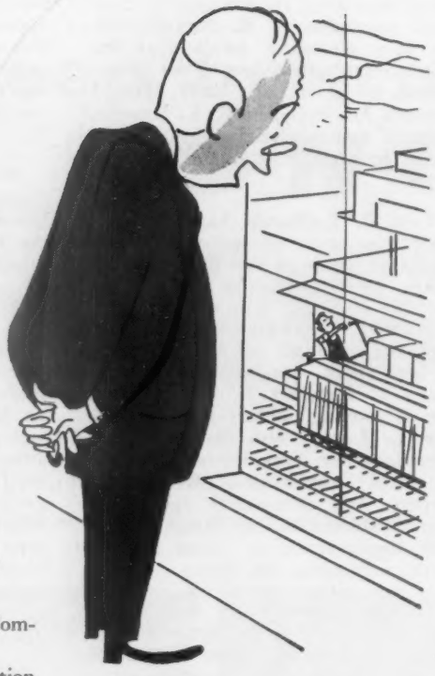
came engaged in full time signal construction on the Burlington, and in March of the same year was made a signal draftsman on that road. From March, 1941, to May, 1946, he was associated with the Union Switch & Signal Co., doing field and office work in the engineering department. Mr. Tegeler was granted leave from his duties with the company between May, 1942 and January, 1943, in order to serve in the Naval Air Corps. He joined the W. P. in May, 1946, as assistant signal engineer, the post he held at the time of his appointment in September, 1949, as acting signal engineer.

PURCHASES & STORES

J. C. MacDonald, whose retirement as assistant general storekeeper of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, with headquarters at Tacoma, Wash., was reported in the *Railway Age* of August 12, received his higher education at Ellsworth College. Mr. MacDonald entered railroad serv-

The Story of an Unhappy Company President

(with a happy ending)



Once upon a time there was a Company President.

He had a nice little organization that did a couple of million bucks worth of business a year. Or used to. But things were getting tough. He was having trouble making deliveries on schedule. What's more, profits were getting smaller and smaller each month.

And the stockholders were all upset. No dividends.

The Company President was getting unhappier and unhappier. Finally he got mad. "I'm going to find out what in the blank blank is wrong with this blank blank place right now!" he yelled to himself. (Practically scared his secretary to death!)

So, he started through the plant. He saw men lifting big boxes and heavy cartons. He saw how slowly highway trucks and railroad cars were being unloaded. He saw wasted time where the production line was waiting for materials.

Boy, if *that* didn't start him thinking, though! He rushed back into his office and phoned a battery-electric truck salesman who had been recommending trucks for umpteen years. "Come on over here right now and help me straighten out this blank blank situation!" bellowed the Company President.

Quick as a wink, that truck salesman was there, and together they went through the plant. The salesman showed the Company President how battery-electric trucks would save time, cut out delays, make work easier for the employees, and save money in the long run.

He told the Company President how clean the trucks were, no fumes, no dirt; how dependable they were, a minimum of maintenance, low-cost operation; how safe they were, how easy to operate.

Well, the company bought four trucks. Everything the salesman promised came true. The Company President got very happy. Business picked up. Orders were delivered on time. Profits climbed. The stockholders at the next Annual Meeting

elected the Company President Chairman of the Board, too! And they all lived happily ever after.

Have YOU taken a good look at your material-handling situation lately? Is it in blank blank shape? Are you unhappy? Our new "Handbook of Material Handling with Industrial Trucks" will help solve your blank blank problems. It costs $1, but responsible company officials will get a copy *free* by writing us a request on company stationery.

The Electric Industrial Truck Association

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ice in 1903 as a locomotive fireman for the Des Moines, Iowa Falls & Northern (now part of the Chicago, Rock Island & Pacific). The following year he was made a locomotive engineer, and in 1912 he left that road and joined the Hugh Kelly Company, heating engineers, of Minneapolis, Minn. He became inspector of housing and smoke abatement for the city of Minneapolis in 1914, and four years later reentered railroad service as division storekeeper for the Milwaukee. After holding several positions as division storekeeper in the Northern district, in 1925 he was advanced to district storekeeper in charge of the Southern district. Mr. MacDonald was transferred to the Western lines in 1936, and was subsequently appointed assistant general storekeeper at Tacoma.

A. J. Sowarby, supervisor of stores of the NEW YORK, ONTARIO & WESTERN has been appointed purchasing agent, with headquarters as before at Middletown, N. Y. The position of supervisor of stores has been abolished.

MECHANICAL

L. E. Hart, personnel officer of the ATLANTIC COAST LINE, has been appointed assistant general superintendent motive power and equipment, with headquarters as before at Wilmington, N. C.

O. L. Hope, master mechanic, Central Kansas-Colorado divisions, of the MISSOURI PACIFIC, at Osawatomie, Kan., has been promoted to mechanical superintendent, Southern district, with headquarters at St. Louis, Mo., succeeding the late **C. R. Rush. W. F. Duncan,** general foreman, locomotive shop, at Sedalia, Mo., succeeds Mr. Hope.

SPECIAL

M. B. Oliver, assistant to general manager of the ATLANTIC COAST LINE, has been appointed personnel officer, with headquarters as before at Wilmington, N. C.

D. A. Doyle, trainmaster of the SOUTHERN PACIFIC at El Paso, Tex., has been appointed assistant manager of personnel, with headquarters at San Francisco, Cal.

Philip B. Swain has been appointed personnel officer, accounting department, CHEASPEAKE & OHIO, at Cleveland, Ohio, with system-wide responsibilities.

H. H. Orr, superintendent of safety of the CHICAGO & EASTERN ILLINOIS at Danville, Ill., will retire on October 1 after 43 years of service with the C.&E.I.

Z. T. Komarek, superintendent of the Lake Erie and Western district of the NEW YORK, CHICAGO & ST. LOUIS, at Muncie, Ind., has been appointed

director of personnel at Cleveland, Ohio, succeeding **Paul L. Peffer,** whose death on September 12 was reported in the *Railway Age* of September 23. Mr. Komarek was born at Huron, Ohio, on August 10, 1900, and entered the service of the Wheeling & Lake Erie (now N.Y.C.&St.L.) at Huron as a yard clerk when he was 15 years old and a student in high school. He continued with that road during summer vacations until 1922, working as a checker at the docks, weighmaster and switchman. After graduating from the University of Michigan with an engineering degree in 1924 he joined the Nickel Plate as a

Z. T. Komarek

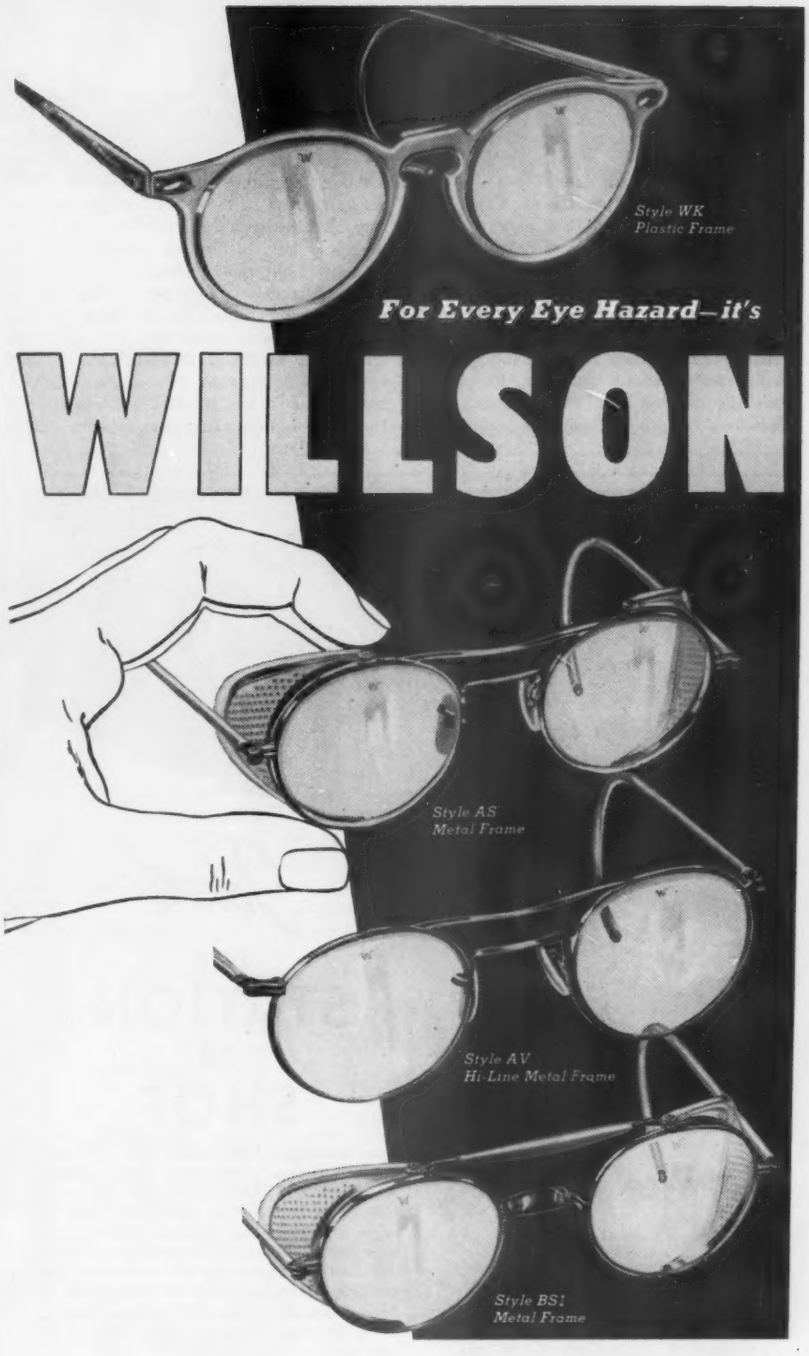
transportation apprentice. Two years later he became night yardmaster at Fostoria, Ohio, and served as special engineer at Cleveland for five months in 1927. He was appointed general yardmaster at Fostoria in 1927; assistant trainmaster of the Fort Wayne-Chicago division at Fort Wayne, Ind., in 1933; trainmaster of that division in 1936, and assistant to the general manager at Cleveland in 1942. Mr. Komarek was appointed assistant superintendent of the Lake Erie and Western district at Muncie on October 1, 1946, and became superintendent of the Clover Leaf district on November 1, 1948, transferring to Muncie on November 15, 1948.

OBITUARY

Allan O. Geertz, fuel engineer of the PENNSYLVANIA and a nationally known combustion engineer and authority on coal mining practices, died on September 21 at University Hospital, Philadelphia, Pa., after a long illness. He was 50 years of age.

C. R. Rush, mechanical superintendent, Southern district, of the MISSOURI PACIFIC, at St. Louis, Mo., died recently.

Robert G. Webb, superintendent of air brakes for the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, with headquarters at Milwaukee, Wis., died on September 9 in Yakima, Wash.



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Current Publications

PAMPHLETS

The Possible Effect of Natural Gas and Oil Competition on the Bituminous Coal Industry. Issued by Appalachian Coals, Incorporated, Cincinnati, Ohio, over the signature of C. F. Hardy, chief engineer, and V. M. Johnston, economist. 10 pages, mimeographed.

Admitting that prospects for coal, and coal-carrying railroads, "are far from the best" at the moment, this report expresses the belief that various underlying factors are eventually subject to correction and will "doubtless disturb the pat conclusion that gas and oil are certain to replace the bulk of the present coal markets." Among suggested stimuli for the coal industry, the report holds the opinion that a reduction in coal freight rates might prove effective. Although cognizant that the point of diminishing returns in the price for hauling coal may already have been reached, the report suggests that "action to reduce rates in strongly competitive areas, where serious loss of business is threatened, may become more frequent in the years ahead, particularly if the move is backed by affected industries." The report concludes: "Coal industry fortunes and those of the coal-carrying railroads are at a low point. The psychology of the times is to assume that nothing can be done to improve the situation, while some further tonnage loss to competition is likely to appear, future prospects of these interdependent industries will very likely and in all probability improve from this point onward, provided that they work unceasingly to promote such improvement."

Handbook of Material Handling with Industrial Trucks. 72 pages, charts, diagrams, illustrations. Published by the Electric Industrial Truck Association, 3701 North Broad st., Philadelphia 40, Pa. $1. (Officials of any industry making application on company letterhead will be sent a copy with the compliments of E.I.T.A. This same offer is extended to deans and professors of engineering, colleges and universities.)

This practical guide for analysis of material handling operations and application of the unit-load method with power-operated industrial trucks and accessories, is divided into four sections: (1) evaluation of industrial truck handling; (2) material handling management, with sub-sections devoted to preparation and use of flow process charts, handling operations in production, handling in storage, use of unit loads in storage, with layouts, commodity and capacity factors, etc. (3) organization of an industrial truck system; and (4) practical truck engineering. Sections of the book describe the different types of industrial trucks in use; their integration of operation with other material handling systems; unit load determinations and patterns; how to charge and and to change storage batteries; how to keep battery records; how to measure handling costs, routing and dispatching methods, and to change storage batteries. Different types of skids, pallets and other load carriers are illustrated and described.

A Proposal for Legislative Action to Restore the Earning Power of the Railroads, by Fairman R. Dick. 20 pages. Available from Mr. Dick, 30 Pine st., New York 5. Free.

This pamphlet contains a proposal submitted to the subcommittee on domestic land and water transportation of the committee on interstate and foreign commerce of the United States Senate, designed to bring the railroads back into a condition where they can get and use capital as other industries do to make economies, improve operations, and serve the public to the fullest. Mr. Dick's testimony before the subcommittee, during which this proposal was outlined, was reported in the *Railway Age* of June 3, page 45.

Railway Transport in Portugal, based on reports by Charles J. Kolinski, American Embassy, Lisbon; prepared for publication by E. E. Early, Transportation and Communications Branch. 4 pages, map. Issued by the Office of International Trade, United States Department of Commerce. Available from the Government Printing Office, Washington 25, D. C. 5 cents.

Discusses national policy toward rail transport, coordination of transport, government supervision of rail transport, traffic interchange arrangements, condition of railway roadbed, procurement and replacement program, and tariffs.

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PISTON PINS	Cr-V (AISI 6120) steel
ROCKER ARMS	Mn-V cast steel
ROCKER ARM BRACKETS	Mn-V cast steel
ROCKER ARM SHAFTS	Cr-V (AISI 6120) steel
SPRINGS	Cr-V (AISI 6150) steel Cr-Mo-V steel
TRUCK FRAMES	C-V cast steel Mn-V cast steel Ni-V cast steel
	IRONS
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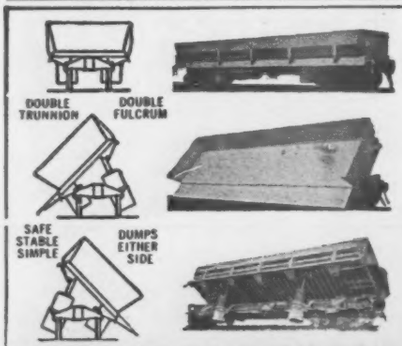

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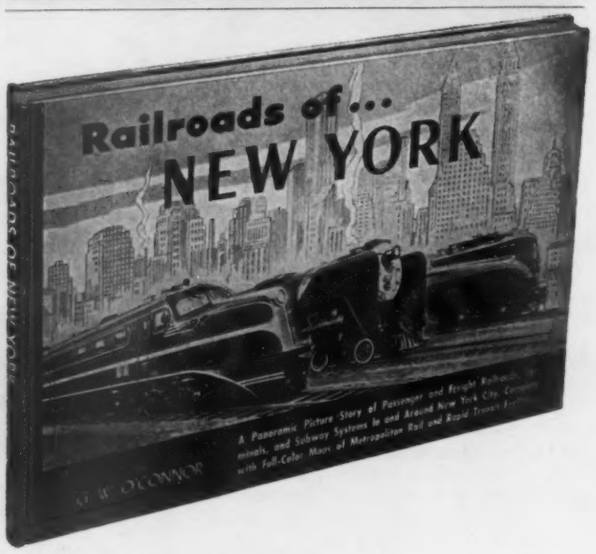

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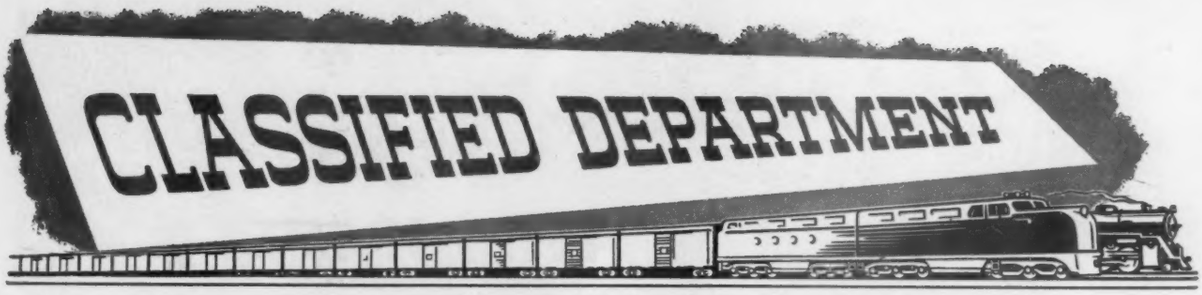

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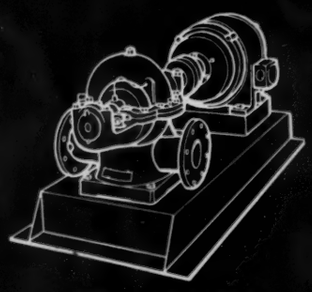

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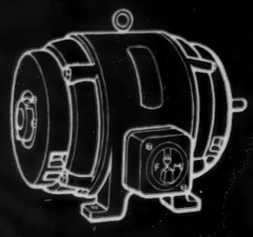

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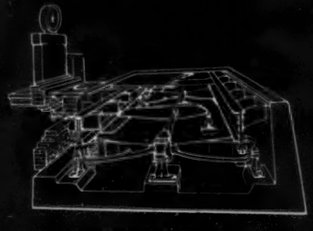

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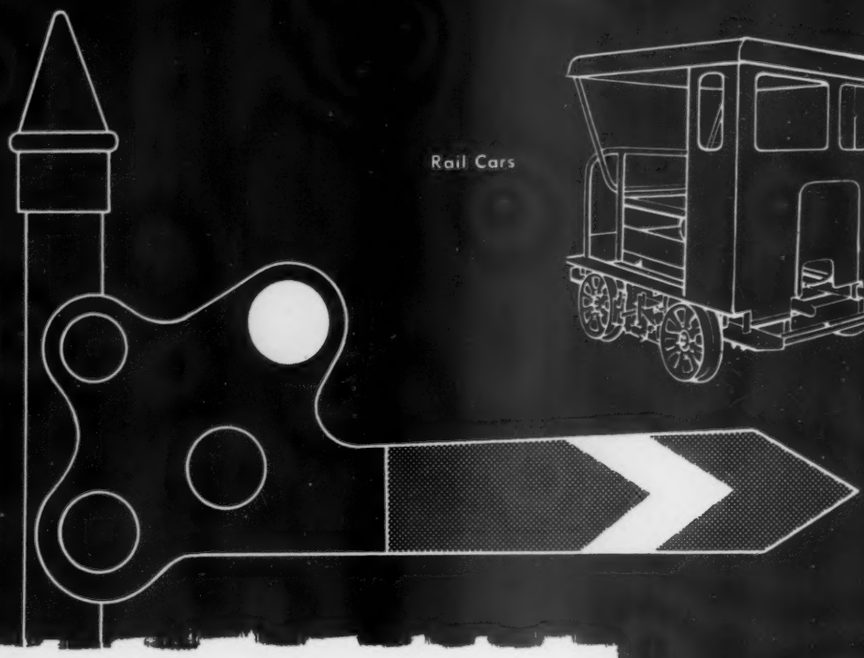

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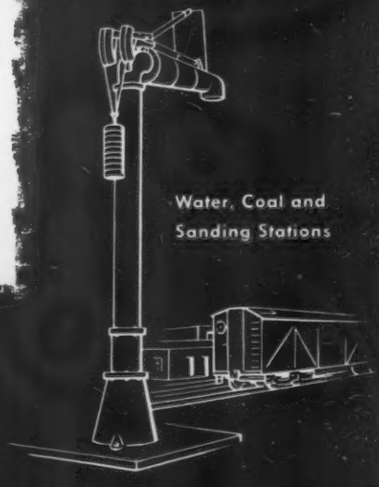

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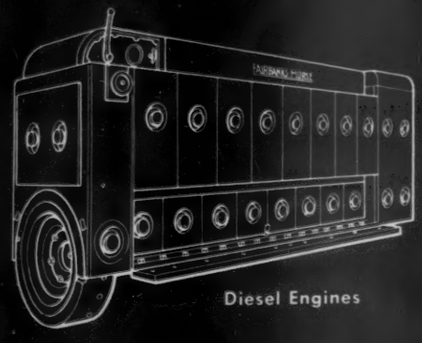

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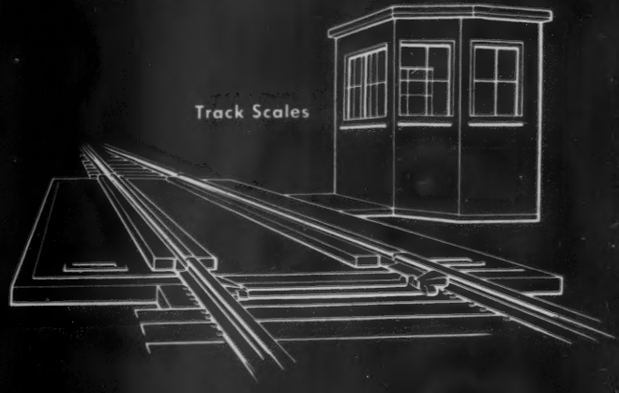
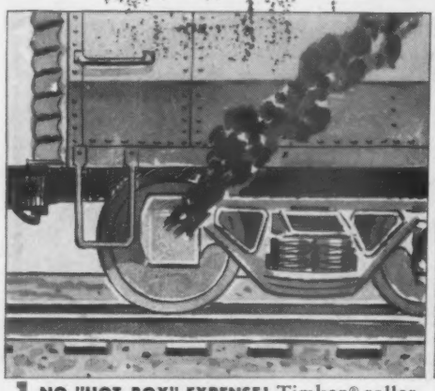
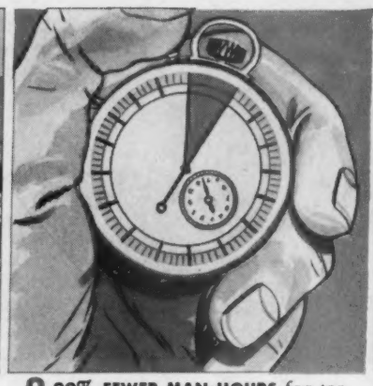


Track Scales

Seven big ways "Roller Freight" will cut the cost of running your railroad



1 NO "HOT BOX" EXPENSE! Timken® roller bearings eliminate "hot boxes" and the expense and shipping delays that go with them.



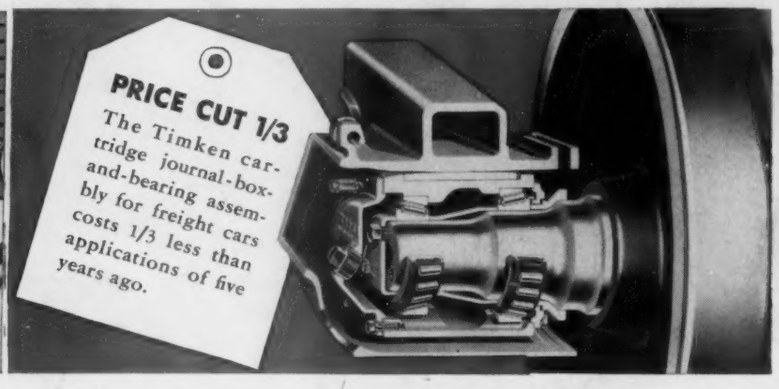
2 90% FEWER MAN-HOURS for terminal inspection of journal boxes when your freight trains are mounted on Timken bearings.

3 FEWER DAMAGE CLAIMS with "Roller Freight" because Timken bearings cut starting resistance 88% — make smoother starts and stops possible.

4 MORE CARS! "Roller Freight" gets there faster, spends less time laid up for repairs. Result: just like adding more cars!

5 LONGER TRAINS! Locomotives can handle more cars because Timken bearings reduce starting resistance 88%. Full-length trains in cold weather, too!

6 SAVES FUEL! It takes less fuel to start "Roller Freight", less fuel to keep it moving.


PRICE CUT 1/3
The Timken cartridge journal-box-and-bearing assembly for freight cars costs 1/3 less than applications of five years ago.

7 SMALLER REPAIR BILLS! There's less wear and tear on draft gear and other parts when freight cars are mounted on Timken bearings. Yes, "Roller Freight" will cut the cost of running your railroad. And, equally important, it will give you a big talking point in tomorrow's competitive battle for freight tonnage. The Timken Roller Bearing Company, Canton 6, Ohio.

TIMKEN *TAPERED ROLLER BEARINGS*

TRADE-MARK REG. U. S. PAT. OFF.

NOT JUST A BALL ○ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭ BEARING TAKES RADIAL ◎ AND THRUST →◎← LOADS OR ANY COMBINATION →✳←

FOUNDED IN 1899